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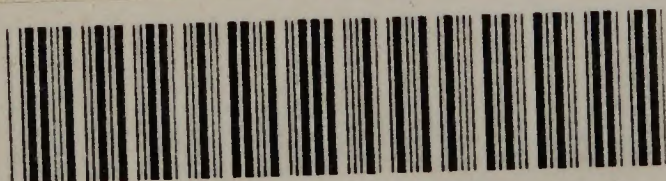
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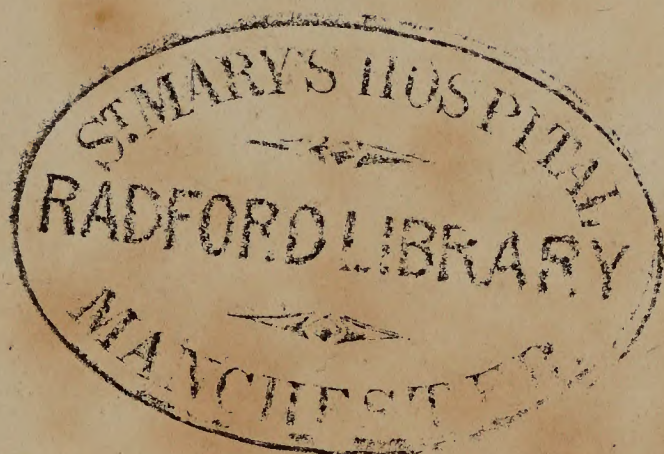












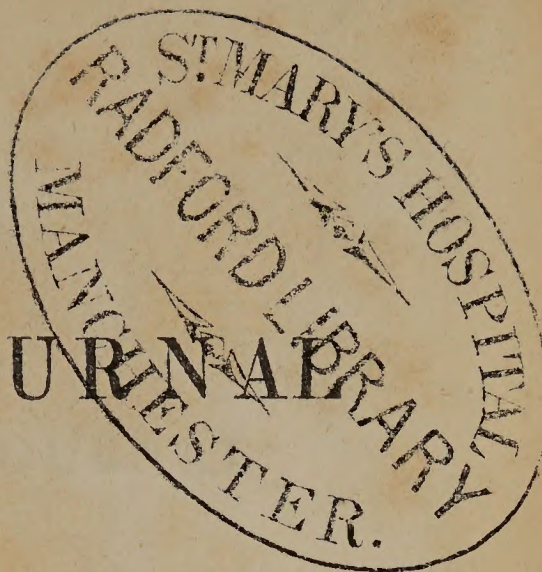




*Messack*



THE DUBLIN  
QUARTERLY JOURNAL  
OF  
MEDICAL SCIENCE;



CONSISTING OF  
ORIGINAL COMMUNICATIONS,  
REVIEWS, RETROSPECTS, AND REPORTS,  
INCLUDING THE  
LATEST DISCOVERIES IN MEDICINE, SURGERY, AND THE COLLATERAL SCIENCES.

VOL. XVI. *N.S.*  
AUGUST AND NOVEMBER, 1853.

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THE  
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Alison on the Larynx. Faraday's Lectures. Giraldés on Diseases of the Maxillary Sinus. Turnbull on Consumption. Stevens on Cholera. Griffith's Chemistry. Guthrie's Surgery. Murray's Medical Logic. Milroy's Report on Cholera in Jamaica. Max. Simon on Hygiene.

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BOOKS RECEIVED.

1. The Medication of the Larynx and Trachea. By S. Scott Alison, M. D., &c. London: Churchill, 1853. Pamphlet, pp. 49.  
[*An excellent practical essay on a subject at present attracting much the attention of the profession.*]

2. The Sophistry of Empiricism. London: Churchill, 1853. 8vo. pp. 84.

3. On a new Method of managing Fractures. (From the Address on Surgery delivered at the Twentieth Anniversary Meeting of the Provincial Medical and Surgical Association.) By James Torry Hester, F. R. C. S., &c. London: Churchill, 1853. Pamphlet, pp. 11, with Plates.  
[*In our next.*]

4. The Subject-Matter of a Course of Six Lectures on the Non-Metallic Elements. By Professor Faraday. Delivered before the Members of the Royal Institution in the Spring and Summer of 1852. Arranged by permission from the Lecturer's Notes lent for the occasion. By J. Scoffern, M. B., &c. London: Longmans, 1853. Fcap. 8vo. pp. 293.

[*The name of the author of these Lectures is sufficient to induce their being studied by all engaged in chemical pursuits. In justice to the Editor we must also say that his introduction and notes increase much the value of the volume.*]

5. Thirteenth Annual Report of the Royal Crichton Institution for Lunatics, 11th November, 1852. Pamphlet, pp. 44.  
[*In our next.*]



6. A Pathological and Practical Treatise on Epidemic Cholera; its History, Causes, various Forms, and Treatment. By O'B. Mahony, L. F. P. and S., &c. London: Churchill, 1853. Post 8vo. pp. 190.

7. Lectures on Clinical Medicine. By J. H. Bennett, M. D., &c. Edinburgh: Sutherland and Knox, 1853. 8vo. Part VIII.

8. The Transactions of the American Medical Association, instituted 1847. Vol. V. Philadelphia. Printed for the Association, 1852. 8vo. pp. 939.  
[In our next.]

9. L'Huile de Foie de Morue, envisagée sous tous les Rapports comme Moyen Thérapeutique. Par L. J. de Jongh, Docteur-médecin à La Haye. Paris: Victor Masson, 1853. 8vo. pp. 262.

10. Introduction à l'étude Médicale et Philosophique de la Surdi-mutité. Par M.-E. Hubert-Valleroux, D. M. Paris: Victor Masson, 1853. 8vo. pp. 126.

[In our next.]

11. Tenth Annual Report of the Managers of the State Lunatic Asylum of the State of New York. Transmitted to the Legislature, February 16, 1853. Pamphlet, pp. 39.

[In our next.]

12. Change of Climate considered as a Remedy in Dyspeptic, Pulmonary, and other Chronic Affections; with an Account of the most eligible places of Residence for Invalids in Spain, Portugal, Algeria, &c., at different seasons of the Year, and an Appendix on the Mineral Springs of the Pyrenees, Vichy, and Aix les Bains. By D. J. T. Francis, M. D. London: Churchill, 1853. Royal 12mo. pp. 339.

13. The Harmonies of Physical Science, in relation to the higher Sentiments; with Observations on the Study of Medical Science, and the Moral and Scientific Relations of Medical Life. By W. Hinds, M. D. London: Churchill, 1853. Fcap. 8vo. pp. 195.

14. Records of Maculated Typhus, or Ship Fever; with Suggestions of Treatment. By J. B. Upham, M. D. New York, 1852. 8vo. pp. 60.

15. Des Kystes Muqueux du Sinus Maxillaire. Par J.-A. Giraldds, Professeur Aggrégé, &c. Paris, 1853. 4to. pp. 15, with coloured Drawings.

[This essay, which was read before the Surgical Society of Paris, contains the views of M. Giraldds on the nature and treatment of the so-called dropsy of the mamillary sinus. This he proves to depend in most instances on the development of mucous cysts therein, which must be extirpated in order to effect a cure. It is beautifully illustrated with coloured lithographs.]

16. The Progress of Improvement in the Treatment of Consumption and other Pulmonary and Laryngeal Diseases, and on some New Remedial Means. By J. Turnbull, M. D., Physician to the Liverpool North Infirmary, &c. London: Churchill, 1853. 8vo. pp. 74.

[An admirable addendum to the author's treatise on the Curability of Consumption noticed in our ninth volume.]

17. On the Nature and Treatment of the Deformities of the Human Frame; being a Course of Lectures delivered at the Royal Orthopædic Hospital in 1843. With numerous Notes and Additions to the present time. By W. J. Little, M. D., &c. London: Longmans, 1853. 8vo. pp. 412, with 160 Engravings.

[In our next, with other works on the subject recently published.]

18. An Apology for British and Colonial Medical Degrees, or, Strictures on the Report of the Special Committee of the Legislative Assembly on the Laws relative to the Practice of Physic, Surgery, and Midwifery in Lower Canada. By A. Hall, M. D., &c. Montreal: Ramsay. Pamphlet, pp. 48.



19. History of the Barber Surgeons of London. By T. J. Pettigrew, F. R. S., &c. (Read at a Meeting held in the Hall of the Company, July 14, 1852.) Pamphlet, pp. 36.

20. Observations on the Nature and the Treatment of the Asiatic Cholera. By William Stevens, M. D., D. C. L., Oxon. London: Baillière, 1853. 8vo. pp. 499.

[*We think Dr. Stevens would have exhibited more wisdom in not attempting to revive, after twenty years, the angry feelings by which the controversy regarding his saline treatment of cholera was then characterized: although we are of opinion that he was not at the time fairly or honourably treated.*]

21. On the Use of an Artificial Membrana Tympani in Cases of Deafness dependent upon Perforation, or destruction of the Natural Organ; to which is added, a Paper entitled, Ought the Tonsils or Uvula to be excised in the Treatment of Deafness? By J. Toynbee, F. R. S., &c. London: Churchill, 1853. Pamphlet, pp. 46.

22. A Treatise on Diseases of the Heart. By O'B. Bellingham, M. D., &c. Dublin: Fannin and Co., 1853. Part 1. 8vo. pp. 252.

[*In our next.*]

23. Annual Report of the Royal Edinburgh Asylum for the Insane, for the year 1852. Edinburgh. Printed at the Royal Asylum Press, 1853. Pamphlet, pp. 50.

[*In our next.*]

24. Der Typhus in Irland, beobachtet im Sommer 1852. Von Dr. Joseph Lindwurm, München. Erlangen: Enke, 1853. 8vo. pp. 99.

25. First Annual Report of the Kilkenny District Lunatic Asylum, opened on the 1st of September, 1852, up to the 31st March, 1853. By Joseph Lalor, M. D., &c., Resident Physician. Kilkenny, 1853. Pamphlet, pp. 16.

[*In our next.*]

26. The Present State and Prospects of Psychological Medicine, with Suggestions for improving the Laws relating to the Cure and Treatment of Lunatics. By Joseph Seaton, M. D. London: Churchill, 1853. Pamphlet, pp. 23.

[*In our next.*]

27. The Nature and Proximate Cause of Insanity. By J. G. Davey, M. D., &c. London: Churchill, 1853. 12mo. pp. 77.

[*In our next.*]

28. Small-Pox and Vaccination. Return to an Order of the Honourable the House of Commons, dated 26th April, 1853, for Copy of Letter from Dr. E. Seaton to Viscount Palmerston; with enclosed Copy of Report on the State of Small-Pox and Vaccination in England and Wales, and other Countries; and on Compulsory Vaccination; with Tables and Appendices. Presented to the Epidemiological Society by the Small-Pox and Vaccination Committee, the 26th day of March, 1853. Folio, pp. 64.

29. A Lecture on Popular Education and the Diffusion of Useful Knowledge. Delivered to the Mechanics' Scientific Institute of Waterford. By the Very Rev. E. N. Hoare, A. M., Dean of Waterford. Pamphlet, pp. 35.

30. Chemistry of the Four Seasons, Spring, Summer, Autumn, and Winter: an Essay principally concerning Natural Phenomena admitting of Interpretation by Chemical Science, illustrating passages of Scripture, and exemplifying the Wisdom and Beneficence of God. By Thomas Griffiths, late Professor of Chemistry in the Medical School of St. Bartholomew's, &c. London: Churchill, 1853. pp. 436.

[*Much useful and valuable matter disguised in hyperbolical and pedantic language.*]



31. Lectures on Surgical Pathology, delivered at the Royal College of Surgeons, England. By James Paget, F.R.S., &c. London: Longmans, 1853. 2 Vols. 8vo. pp. 499 and 637.

[*In our next.*]

32. Plates of the Brain, in Explanation of the Physical Faculties of the Nervous System. By Joseph Swan. London: Longmans, 1853. 4to. pp. 67, and 22 Plates.

[*In our next.*]

33. The Decline of Life in Health and Disease; being an Attempt to investigate the Causes of Longevity, and the best means of attaining a healthful Old Age. By Barnard Van Oven, M.D., &c. London: Churchill, 1853. 8vo. pp. 300.

34. Annals of Anatomy and Physiology. Conducted by John Goodsir, F.R.S., &c. Edinburgh: Sutherland and Knox. Part 3, June, 1853. Bibliography, Vol. I.

35. Twenty-third Annual Report of the Belfast District Hospital for the Insane, 1853. By Robert Stewart, M.D., Resident Physician.

[*In our next.*]

36. Researches on the Primary Stages of Histogenesis and Histolysis. By Robert D. Lyons, M.B., &c. (From the Proceedings of the Royal Irish Academy, Vol. V. Part 3.) Pamphlet, pp. 16.

37. Practical Observations on Aural Surgery, and the Nature and Treatment of Diseases of the Ear; with Illustrations. By William R. Wilde, F.R.C.S.I., Surgeon to St. Mark's Ophthalmic Hospital. London: Churchill, 1853. 8vo. pp. 506.

38. Second Annual Report of the Wilts County Asylum, Devizes, for the Year 1852. Pamphlet, pp. 44.

[*In our next.*]

39. The Scottish Review, a Quarterly Journal of Social Progress and General Literature. No. III., July, 1853.

40. The British Journal of Homœopathy. No. XLV. London: Aylott and Co. July, 1853.

41. Popular Errors on the Subject of Insanity. By James F. Duncan, A.M., M.D., Fellow and Censor of the College of Physicians, Physician to Sir P. Dun's and Simpson's Hospitals. Dublin: McGlashan, 1853. Post 8vo. pp. 265.

[*In our next.*]

42. Twentieth Annual Report of the Maryborough District Lunatic Asylum, to 31st March, 1853. By Thomas C. Burton, Resident Physician. Folio, pp. 3.

[*In our next.*]

43. Researches on the Conduct of the Human Uterus after Delivery. By Dr. R. Heschl, First Assistant to the Chair of Pathological Anatomy in Vienna. Translated from the German. Dublin: Fannin and Co., 1853. Pamphlet, pp. 14.

44. La Crónica de los Hospitales. Periodico Oficial de la Facultad de Medicina, Cirurgia y Farmacia del General de Madrid. To be published on the 8th and 24th of each Month. No. I. June 8, 1853.

45. Lunatic Asylums, Ireland. Sixth General Report on the District Criminal and Private Lunatic Asylums in Ireland. With Appendices. Presented to both Houses of Parliament by command of Her Majesty, 1853. Folio, pp. 32.

[*In our next.*]

46. Commentaries on the Surgery of the War in Portugal, Spain, France,



and the Netherlands, from the Battle of Roliça, in 1808, to that of Waterloo, in 1815, showing the Improvements made during and since that period in the great Art and Science of Surgery on all the Subjects to which they relate. Revised to 1853. By G. J. Guthrie, F. R. S. Fifth Edition. London: Renshaw, 1853. 12mo. pp. 603.

*[We gladly hail the publication of this new edition of the most important work on Military Surgery of the present century. Its value is much augmented by the numerous additions made by the author, whereby, as the title indicates, it is brought down to the present day.]*

47. Logical Science considered as an Educational Element: an Inaugural Address, delivered in the Theatre of the Royal College of Surgeons in Ireland. By John Murray, A. M., LL. D., &c. Dublin: Hodges and Smith, 1853. Pamphlet, pp. 40.

*[An elegantly written prelection, well calculated to attract the mind of the medical student, and even the practitioner, to the importance of acquiring a knowledge of Logic in the course of their study.]*

48. Report on the Cholera in Jamaica, and on the general Sanitary Condition and Wants of the Island. London. Printed for Her Majesty's Stationary Office, 1853. Folio, pp. 133.

*[This well and ably written Report, which completes the history of the late Epidemic Visitation of Jamaica, and of the Sanitary Condition of the Island, was not received by us in time to be included in the review of the subject in our present Number. It is highly creditable to its talented author, Dr. Gavin Milroy.]*

49. Hygiène du Corps et de l'Ame, ou Conseils sur la Direction Physique et Morale de la Vie adressés aux Ouvriers des Villes et des Campagnes. Par le Docteur Max. Simon. Paris: Baillière, 1853. 12mo. pp. 128.

*[An admirable hygienic essay addressed to the people by the author of the "Déontologie Médicale," a work by which M. Max. Simon's fame has been widely diffused in this kingdom. He writes clearly and forcibly in the present volume, and lays down excellent rules regarding Cleanliness, Temperance, the Care of Children, Domestic Medicine, and Moral Hygiene; to which he also appends, in two distinct chapters, Advice to the Workmen dwelling in Towns, and to those residing in the Country. We strongly recommend the reproduction of this little volume in an English garb by some of our Sanitary Associations.]*

50. Notice des Travaux de la Société de Médecine de Bordeaux. Par M. Burguet, Secrétaire Général. Bordeaux: Gounouilhou, 1852. Pamphlet, pp. 47.

## PERIODICALS WITH WHICH THE DUBLIN QUARTERLY JOURNAL IS EXCHANGED.

### GREAT BRITAIN.

1. The British and Foreign Medico-Chirurgical Review and Journal of Practical Medicine. Published Quarterly. London: Churchill, and Highley. (Received No. 23.)

2. The Edinburgh Medical and Surgical Journal; exhibiting a concise View of the latest and most important Discoveries in Medicine, Surgery, and Pharmacy. Published Quarterly. Edinburgh: Black. (Received No. 196.)

3. The Retrospect of Medicine, being a half-yearly Journal, containing a retrospective View of every Discovery and practical Improvement in the Medical Sciences. Edited by W. Braithwaite. London: Simpkin and Co. (Received Vol. XXVI.)

4. The Half-Yearly Abstract of the Medical Sciences, being a practical and analytical Digest of the principal British and Continental Medical Works, &c. Published Half-Yearly. Edited by W. H. Ranking, M. D., and C. B. Radcliffe, M. D. London: Churchill. (Received Vol. XVII.)



5. *Pharmaceutical Journal and Transactions*. Published Monthly. London. Edited by Jacob Bell. (Received regularly.)

6. *The London, Edinburgh, and Dublin Philosophical Magazine and Journal of Science*. Conducted by Sir David Brewster, Richard Taylor, Sir Robert Kane, and William Francis, Ph. D. Published Monthly. London: Taylor. (Received regularly.)

7. *Monthly Journal of Medical Science*. Edinburgh: Sutherland and Knox. (Nos. for June and July not received.)

8. *The Chemist, a Monthly Journal of Chemical Philosophy and of Chemistry*. Edited by J. and C. Watt. London: Piper, Brothers. (Received regularly.)

9. *Medical Times and Gazette*. Published Weekly. London: John Churchill. (Received regularly.)

10. *Medical Association Journal*. Edited by John Rose Cormack, M. D. Published Weekly. London: Honeyman. (Received regularly.)

11. *The Journal of Psychological Medicine and Mental Pathology*. Edited by Forbes Winslow, M. D. Published Quarterly. London: Churchill. (Received No. 23.)

12. *Quarterly Journal of Microscopical Science: including the Transactions of the Microscopical Society of London*. Edited by E. Lankester, M. D., F. R. S., &c., and G. Busk, F. R. C. S. E., F. R. S., &c. London: Highley and Son. (Nos. 1, 2, and 4, not received.)

13. *The Glasgow Medical Journal*. Published Quarterly. Griffin and Co. (Received No. 2.)

14. *The Athenæum—Journal of English and Foreign Literature, Science, &c.* Published Weekly. London. (Received regularly.)

15. *The Westminster Review*. Published Quarterly. London: John Chapman. (Not received.)

#### AMERICA.

16. *The American Journal of the Medical Sciences*. Edited by Isaac Hays, M. D. Published Quarterly. Philadelphia: Lea and Blanchard. (Received No. 50.)

17. *The Medical Examiner and Record of Medical Science*. Edited by F. G. Smith, M. D., and J. B. Biddle, M. D. Published Monthly. Philadelphia: Lindsay and Blakiston. (Received regularly.)

18. *The New York Journal of Medicine and the Collateral Sciences*. Edited by S. S. Purple, M. D., and J. Smith, M. D. Published Monthly. New York: Hudson. (Received Vol. X. No. 3.)

19. *The American Journal of Science and Arts; conducted by Professors Silliman and B. Silliman, Jun., and J. D. Dana*. Published Bi-monthly. New Haven. (Received Nos. 45.)

20. *The American Journal of Insanity*. Published by the New York State Lunatic Asylum, Utica, Quarterly. (Received Vol. VI. No. 1., and Nos. 3 and 4 of Vol. VII.)

21. *The American Journal of Dental Science*. Edited by C. A. Harris, M. D. Published Quarterly. (Received Vol. III. No. 2.)

22. *The Boston Medical and Surgical Journal*. Published Weekly. Boston: Clapp. (Received regularly, except No. 1230, and Part 252, which have not been received.)

23. *The Charleston Medical Journal and Review*. Edited and Published by D. J. Cain, M. D., and E. P. Porcher, M. D. Published bi-monthly. Charleston, S. C. (Received regularly for this Year; our Set is deficient



in No. 1 of Vol. VI., and in the whole of Vol. VII., which we will thank the Editors to forward to us if they wish the Exchange to be continued.)

24. The Stethoscope and Virginia Medical Gazette. Edited by P. C. Gooch, M. D. Published Monthly. Richmond: Virginia. (Received regularly for this year; but our Set is deficient in Nos. 2, 3, 4, 5, 11, and 12 of Vol. I., and Nos. 1, 3, 4, 5, 7, 8, 9, and 11 of Vol. II., which we will thank the Editor to forward to us, if he wishes the Exchange to be continued.)

25. Southern Medical Reports. Edited by D. E. Fenner, M. D. To be published Annually. New Orleans: Norman. (Not received.)

#### FRANCE.

26. Gazette Médicale de Paris. Published Weekly. Paris. (Received regularly.)

27. Journal de Chimie Médicale, de Pharmacie, de Toxicologie, et Revue des nouvelles, scientifiques, nationales et étrangères, &c. Published Monthly. Paris: Labé. (Received regularly.)

28. Journal de Pharmacie et de Chimie, &c. Published Monthly. Paris: Victor Masson. (Received regularly.)

29. L'Union Médicale, Journal des intérêts scientifiques et pratiques, moraux et professionnels du Corps médical. Published three times a Week. Paris. (Received regularly.)

30. La Lancette Française, Gazette des Hôpitaux civils et militaires. Published three times a Week. Paris. (Received regularly.)

31. Le Moniteur des Hôpitaux, Journal des Progrès de la Médecine et de la Chirurgie Pratiques. Rédacteur en chef: M. H. de Castelnau. Paris. Published three times a Week. (Received regularly.)

32. Revue Médicale Française et étrangère, Journal des Progrès de la Médecine Hippocratique. Published twice a Month. Par J. B. Cayol. Paris. (Received regularly.)

33. Revue Médico-Chirurgicale de Paris. Sous la Direction de M. Malgaigne. Published Monthly. (Received regularly.)

34. Archives Générales de Médecine; Journal Complémentaire des Sciences Médicales. Published Monthly. Paris: Labé. (Received regularly.)

35. Bulletin de l'Académie Nationale de Médecine. Published Monthly. Paris: Baillière. (Not received.)

36. Mémoires de l'Académie de Médecine. (Received Vol. XVII.)

37. Revue de Thérapeutique Médico-Chirurgicale. Published twice a Month. Paris: Dr. A. Martin-Lauzer. (Received regularly.)

38. Journal de Médecine et de Chirurgie Pratiques à l'Usage des Médecins Praticiens. Published Monthly. Par Lucas Champonnière. Paris. (Received regularly.)

39. Recueil de Médecine Vétérinaire Pratique. Published Monthly. Paris: Labé. (Received regularly.)

40. Journal des Connaissances Médicales pratiques et de Pharmacologie. Published twice a Month. Paris. (Received regularly.)

41. Annales Médico-Psychologiques. Par MM. Baillarger, Brierre de Boismont, et Cerise. Published Quarterly. Paris: Victor Masson. (Received regularly.)

42. Bulletin Général de Thérapeutique, Médicale et Chirurgicale. Recueil pratique. Publiée par le Docteur Debout. Published twice a Month. Paris. (Received regularly.)



43. *Repertoire de Pharmacie. Recueil pratique.* Par M. le Dr. Bouchardat. Published Monthly. (Received regularly.)

44. *Annales des Maladies de la Peau et de la Syphilis.* Publiées par le Dr. Alphée Cazenave et le Dr. M. Chausit. Published Monthly. Paris. (No Number received since Part XII. Vol. IV.)

45. *Gazette Médicale de Strasbourg.* Published Monthly. (Received regularly.)

46. *Revue Thérapeutique du Midi, &c.* Publié par le Dr. Louis Saurel. Published twice a Month. Montpellier. (Received regularly.)

47. *Journal de Médecine de Bordeaux.* Rédacteur en chef, M. Costes. Published Monthly. (Received regularly.)

#### BELGIUM.

48. *Nouvelle Encyclographie des Sciences Médicales.* Publiée par une Société de Médecins. Published Monthly. (Not received.)

49. *Annales et Bulletin de la Société de Médecine de Gand.* Published Monthly. (Received regularly.)

#### GERMANY.

50. *Zeitschrift für rationelle Medicin; herausgegeben Von Dr. J. Henle and Dr. C. Pfeufer, Professoren der Medizin an der Universität zu Heidelberg.* Published Monthly. (Received Vol. III. Nos. 1 and 2.)

51. *Der ärztliche Hausfreund, herausgegeben von R. Froriep.* Landes-Industrie-Comptoir in Weimar. (Received regularly.)

52. *Zeitschrift der Kais. Kön. Gesellschaft der Aerzte zu Wien.* Rédacteur : Professor, Dr. Ferdinand Hebra. (Received Vol. VIII. No. 12, and Vol. IX. Nos. 1 to 5. Nos. 3 and 4, of Vol. VIII., not received.)

53. *Vierteljahrschrift für die praktische Heilkunde, herausgegeben von der medicinischen Facultät in Prag.* Published Quarterly. Karl André. (Received regularly. Parts 2 and 4, 1851, and Parts 2 and 3, 1850, not received.)

54. *Annalen der Chemie und Pharmacie.* Herausgegeben von F. Wöhler und J. Liebig. Published Monthly. Heidelberg. (Received regularly.)

55. *Canstatt's Jahresbericht über die Fortschritte der gesammten Medicin in allen Ländern, im Jahre 1852.* Redigirt von Pr. Scherer, Pr. Virchow, und Dr. Eisenmann. Würzburg: Stahel. (Received Parts 2 and 3, for 1852.)

56. *Journal für Kinderkrankheiten.* Herausgegeben von Dr. Fr. J. Behrend und Dr. A. Hildebrand. Published Monthly. Erlangen: Palm und Enke. (Received Vol. XX., Nos. 2 and 3.)

#### SWITZERLAND.

57. *Verhandlungen der Naturforschenden. Gesellschaft in Zurich.* Published Weekly. (Not yet received.)

#### HOLLAND.

58. *Geneeskundige Courant von het Koninkrijk der Nederlanden.* (Not yet received.)

#### DENMARK.

59. *Bibliothek for Læger, Tredie Række.* Udgivet af Direktionen for de classenske Literaturselskab. Redigeret af Dr. Dahlerup. Published Monthly. Kjobenhavn. (Not received.)

60. *Hospitalsmeddelelser.* Copenhagen. (Not received.)



## NORWAY.

61. Norsk Magazin, for Lægevidenskaben, udgivet af det medicinske Selskab i Christiania. Redigeret af W. Boeck. Faye. A. W. Münster. Lund. Voss. Published Monthly. Christiania: Feilberg & Landmark. (Received regularly.)

## SWEDEN.

62. Hygiea, Medicinsk och Pharmaceutisk Månads-Skrift. Published Monthly. Stockholm: Fritze. (Received Parts 11 and 12, for 1852: and Parts 1 and 2, for 1853. Part 11, for 1850, and Parts 9 to 12, 1849, not received.)

## ITALY.

63. Il Raccoglitore Medico di Fano; Giornale di Medicina e Chirurgia. Dal Dottori Malagodi e Franceschi. Published twice a Month. (Received regularly.)

64. Gazzetta Medica Italiana Federativa Toscana. Florence. Published Weekly. (Received all the Nos. of the New Series, except Nos. 32 to 36.)

65. Bulletino delle Scienze Mediche. Pubblicato per cura della Società Medico-Chirurgica di Bologna. Published Monthly. (Received regularly. The April Number, for 1851, not received.)

66. Correspondenza Scientifica in Roma. (Received regularly.)

67. Giornale Veneto di Scienze Mediche. Published Monthly. (Received regularly.)

## SPAIN.

68. Boletín de Medicina, Cirugía, y Farmacia; Periodico oficial de la Sociedad Médica General de Socorros Mutuos. Madrid. Published Weekly. (Received regularly, except Nos. 33 and 82.)

69. El Heraldo Médico. Edited by Professor G. de la Vega. Madrid. Published Weekly. (Received regularly. Nos. 2 to 13 not received.)

## NOTICES TO CORRESPONDENTS.

THE great pressure on our space, owing to the extent of the Original Communications, and the Reports of our Medical Societies, compels us to postpone for the present the promised Biographical Memoir of the late Dr. Graves. For the same reason we are obliged to hold over some Reviews and Extracts from Foreign Journals which are in type.

Dr. Hardy has forwarded to us a Communication relative to the Local Application of the Vapour of Chloroform in the treatment of various diseases, especially those of the Uterine Organs, together with the description of an apparatus he has invented for the purpose. It shall appear in our November Number.

The Transactions of the College of Physicians, and the Reports of the Pathological and Obstetrical Societies for last Session, will be concluded in our next.

Books and Periodicals published in Northern Europe, intended for our Journal, should be transmitted "For the Editor of the Dublin Quarterly Medical Journal, care of Messrs. Williams and Norgate, London." Our Correspondents in France, Belgium, Southern Germany, Italy, and Spain, are requested to communicate with us through "Doctor Higgins, 30, Rue Rivoli, Paris."



THE  
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i. Sixth General Report on the District Criminal and Private Lunatic Asylums in Ireland, with Appendices. Presented to both Houses of Parliament by command of Her Majesty.	
ii. Seventh Annual Report of the Commissioners in Lunacy to the Lord Chancellor, 30th June, 1852. Pursuant to the Act 8 & 9 Vict. c. 100, s. 88. Ordered by the House of Commons to be printed, 5th April, 1853.	
iii. Return to an Address of the House of Commons, dated 9th December, 1852, for Copies of all Reports of the Commissioners in Lunacy as to the State and Management of Bethlehem Hospital. Ordered by the House of Commons to be printed, 14th December, 1852.	
iv. Twenty-third Annual Report of the Belfast District Hospital for the Insane, to 31st March, 1853. By Robert Stewart, M. D., Resident Physician-Superintendent.	
v. The Journal of Psychological Medicine. Edited by Forbes Winslow, M. D. Nos. for October, 1852, and January, April, and July, 1853.	
vi. Popular Errors on the Subject of Insanity Examined and Exposed. By James F. Duncan, A. M., M. D.	
vii. The Nature and Proximate Cause of Insanity. By G. J. Davey, M. D.	
viii. The Present State and Prospects of Psychological Medicine, with Suggestions for improving the Laws relating to the Care and Treatment of Lunatics. By J. Seaton, M. D.	
ix. Cretins and Idiots: a short Account of the Progress of the Institutions for their Relief and Cure.	
x. Elements of Psychological Medicine. By Daniel Noble, F. R. C. S., Medical Officer to the Clifton Hall Retreat, Manchester.	
xi. The American Journal of Insanity. Nos. for July, 1849; January and April, 1851; October, 1852; and January and July, 1853. Published by the New York State Lunatic Asylum, Utica.	
xii. Twentieth Annual Report of the Carlow District Hospital for the Insane Poor of the Counties of Carlow, Kildare, and Wexford, for the Year ended 31st March, 1853. By M. E. White, A. M., M. D., Resident Physician.	



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- xiii. Twentieth Annual Report, to 31st March, 1853, of the Maryborough District Lunatic Asylum, for the King's, Queen's, Westmeath, and Longford Counties. By T. C. Burton, M. D., Resident Physician.
- xiv. First Annual Report of the Kilkenny District Lunatic Asylum for the County and City of Kilkenny, to 31st March, 1853. By J. Lalor, M. D., L. R. C. S. I., Resident Physician.
- xv. Fifteenth Annual Report, to 31st December, 1852, of the Suffolk County Lunatic Asylum. By J. Kirkman, M. D., Superintendent Physician.
- xvi. Fifth Annual Report of the Somerset County Asylum for Insane Paupers, to 31st December, 1852. By R. Boyd, M. D., Medical Superintendent.
- xvii. Second Annual Report of the Wilts County Asylum, Devizes, for the Year 1852. By J. Thurnam, M. D., Medical Superintendent.
- xviii. Annual Report of the Royal Edinburgh Asylum for the Insane, for the Year 1852. By D. Skae, M. D., Resident Physician.
- xix. Thirteenth Annual Report of the Crichton Royal Institution for Lunatics, for the Year ended 11th November, 1852. By W. A. F. Browne, M. D., Resident Physician.
- xx. Tenth Annual Report of the State Lunatic Asylum of the State of New York, for 1852. By N. D. Benedict, M. D., Superintendent and Physician.
2. Some Observations on Fish in Relation to Diet. By John Davy, M. D., F. R. SS. Lond. and Edin., Inspector-General of Army Hospitals, &c. Reprinted from the Transactions of the Royal Society of Edinburgh, Vol. XX., Part IV., . . . . . 399
3. Lectures on Surgical Pathology, delivered at the Royal College of Surgeons of England. By James Paget, F. R. S., lately Professor of Anatomy and Surgery to the College; Assistant-Surgeon and Lecturer on Physiology at St. Bartholomew's Hospital, . . . . . 402
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5. The Pathology of the Bronchio-Pulmonary Mucous Membrane. By C. Black, M. D., &c., Chesterfield, . . . . . 427
6. A Treatise on Diseases of the Heart. By O'B. Bellingham, M. D., F. R. C. S. I., one of the Medical Officers of St. Vincent's Hospital, &c., . . . . . 437
7. On the Decline of Life in Health and Disease, being an Attempt to investigate the Causes of Longevity, and the best Means of Attaining a Healthful Old Age. By Barnard Van Oven, M. D., &c., . . . . . 447



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8. On a New Method of Managing Fractures. From the Address in Surgery, delivered at the Twentieth Anniversary Meeting of the Provincial Medical and Surgical Association, held at Oxford. By J. T. Hester, F. R. C. S., Surgeon to the Radcliffe Infirmary, Oxford, . . . . .	450
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Symonds on Habit Physiologically considered. Dendy on the Birth and Pilgrimage of Thought. Morehead's Introductory Lecture at the Bombay Medical College. Milroy on Quarantine. Skey on the Prevalent Treatment of Disease. Jenner's Gulstonian Lectures. Moseley on Sandgate as a residence for Invalids. Hartwig on Sea-bathing and Sea Air. Gillkrest's Notes on Cholera. Miller's Principles of Surgery. Liebig's Hand-book of Organic Analysis.

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BOOKS RECEIVED.

1. Habit Physiologically Considered. A Lecture delivered May 9, 1853, at the Bristol Literary and Philosophical Institution. By J. A. Symonds, M. D. London: Churchill, 1853. Pamphlet, pp. 28.

[*An interesting and ably written Lecture on a subject which should be always borne in mind by the practical physician.*]

2. ΨΥΧΗ. A Discourse on the Birth and Pilgrimage of Thought. By W. C. Dendy, Senior Surgeon to the Royal Infirmary for Children, &c. London: Longmans, 1853. Square 8vo. pp. 144.

[*An elegantly got-out little volume, but we must confess that its metaphysics are too profound for our comprehension.*]

3. The Pathology of the Bronchio-Pulmonary Mucous Membrane. By C. Black, M. D., Chesterfield. Edinburgh: Sutherland and Knox, 1853. 8vo. pp. 99.

4. Cretins and Idiots. A short Account of the Progress of the Institutions for their Relief and Cure. London: Wighton, 1853. Pamphlet, pp. 32.

5. Twentieth Annual Report of the Carlow District Hospital for the Insane Poor of the Counties of Carlow, Kildare, and Wexford, for the Year ending 31st March, 1853. By M. E. White, M. D., Resident Physician. Pamphlet, pp. 24.

6. Some Observations on Fish in relation to Diet. By John Davy, M. D., &c., Inspector-General of Army Hospitals. (From the Transactions of the Royal Society of Edinburgh, Vol. XX. Part 4). 4to. pp. 8.



7. An Introductory Lecture delivered in the Grant Medical College, at Bombay, on the 15th June, 1853, at the opening of the Session, 1853-54. By C. Morehead, M. D., Principal. Bombay: 1853. Pamphlet, pp. 45.

8. An Account of the System of Clinical Instruction and Examination followed in the Grant Medical College at Bombay; with Remarks on Medical Education. By C. Morehead, M. D., &c. Pamphlet, pp. 34.

*[From Dr. Morehead's Lecture and pamphlet it appears that the vast facilities for the hospital instruction of students of medicine which exist in our Indian Empire have, as regards Bombay, been fully taken advantage of, and the mode of education and examination followed in the Grant College placed on a par with those in the home country.]*

9. A Manual of Materia Medica and Therapeutics; including the Preparations of the Pharmacopœias of London, Edinburgh, and Dublin; with many New Medicines. By J. Forbes Royle, M. D., F. R. S., &c. Second Edition. London: Churchill, 1853. Fcap. 8vo. pp. 801.

10. Sketch of the Operation and of some of the most striking Results of Quarantine in British Ports, since the beginning of the present century. By Gavin Milroy, M. D., &c. London: Richards, 1853. Pamphlet, pp. 38.

*[Like all Dr. Milroy's publications, clearly and argumentatively written, although we think that in the present instance his better judgment has been somewhat clouded by prejudice and preconceived ideas.]*

11. On the Prevalent Treatment of Disease. Two Lectures, delivered in the Theatre of the Royal College of Surgeons, in July, 1853. By F. C. Skey, F. R. S., &c. London: Chapman and Hall, 1853. 8vo. pp. 68.

*[These Lectures, the one on Depletion, and the other on the Treatment of Disease by Tonics, abound in sound principles and valuable truths. They are directed against the former, whether it be by bleeding or purgation, and devoted to the support of the latter means for the cure of disease. Elegantly written, we most warmly commend them to the notice of the profession, and sure are we that the principles therein enunciated, if generally adopted, would tend considerably to render more successful the practice of both medicine and surgery.]*

12. On the Physiological Uses of the Ganglionic Nervous System. By J. G. Davey, M. D., &c. London: Churchill, 1853. Pamphlet, pp. 20.

13. The Gulstonian Lectures. On the Acute Specific Diseases. By W. Jenner, M. D., &c. London: Tyler, 1853. Pamphlet, pp. 55.

*[In these Lectures the author further develops his views on the nature of Fevers, which we reviewed at length in a late Number of our Journal.]*

14. Seventh Annual Report of the Commissioners in Lunacy to the Lord Chancellor, 30th June, 1852. Ordered by the House of Commons to be printed, April 5, 1853. 8vo. pp. 123.

15. Report of the Commissioners in Lunacy to the Right-Hon. Sir George Grey, Bart., M. P., &c., on Bethlehem Hospital. Ordered by the House of Commons to be printed, December 14, 1852. 8vo. pp. 451.

16. Elements of Psychological Medicine. An Introduction to the Practical Study of Insanity, adapted for Students and Junior Practitioners. By Daniel Noble, F. R. C. S., &c. London: Churchill, 1853. 12mo. pp. 340.

17. Sandgate as a Residence for Invalids. By Geo. Mosely, M.R.C.S.E. London: Churchill, 1853. 12mo. pp. 136.

*[A most interesting account of this charming and healthful village on the South Coast of England, in which its advantages as a mild residence for the invalid are fully pointed out. The book is illustrated by two admirably executed coloured lithographs.]*



18. Highley's Popular Medical Series. No. I. A Practical Treatise on Sea-Bathing and Sea-Air. By G. Hartwig, M. D. London: Highley, 1853. Fcap. 8vo. pp. 148.

[We hope that the spirited publisher of this series will intrust the succeeding volumes of it to more able hands than he has done in the present instance, for we cannot commend either the author's style or matter.]

19. Notes worth noticing relative to the Cholera, which has for some years past occupied the public attention. By Dr. Gillkrest, Inspector-General of Army Hospitals, H. P., &c. London: Golbourn, 1853. 8vo. pp. 68.

[We do not find anything worth noticing in these notes.]

20. Homœopathy: its Globules (Bubbles) analyzed. Second Edition. By W. J. Cox, M. R. C. S., M. B., &c. London: Elliot, 1853. Pamphlet, pp. 84.

21. El Porvenir Médico, Periodico de los Intereses Materiales, Morales y Científicos de las Clases Medicas. Published six Numbers Monthly. Nos. 25 to 30, August 5 to 31, 1853. Madrid.

22. The Principles of Surgery. By James Miller, F. R. S., F. R. C. S. E., &c. Third Edition. Illustrated by 240 Engravings on Wood. Edinburgh: A. and C. Black, 1853. 8vo. pp. 760.

[A third edition of Mr. Miller's Principles of Surgery in so short a time tells sufficiently the value of the volume, and the appreciation in which it is held by the Profession. It is in every respect improved, and brought down fully to the present advanced state of the science.]

23. Gli Spedali e gli Ospizj di Parigi e di Londra, Visitati nella primavera dell' anno 1852. Dal Dott. Pasquale Landi, di Cinigiano. Florence: Mariano Cecchi, 1853. 8vo. pp. 349.

[In our next.]

24. Table Alphabétique Générale des Publications de la Société de Médecine de Gand, 1853. 8vo. pp. 89.

25. The British Journal of Homœopathy. No. XLVI. October 1, 1853. London: Aylott and Co.

26. An Investigation of the Deaths in the Standard Life Assurance Company. By Robert Christison, M. D., V. P. R. S. E., &c. Reprinted from the Monthly Journal of Medical Science for August, 1853. 8vo. pp. 56.

[In our next.]

27. The Laws of the Belfast Clinical and Pathological Society; founded 1853. Pamphlet, pp. 8.

28. The Pathology and Treatment of Pulmonary Tuberculosis, and on the Local Medication of Pharyngeal and Laryngeal Diseases, frequently mistaken for or associated with Phthisis. By J. H. Bennett, M. D., &c. Edinburgh: Sutherland and Knox, 1853. 8vo. pp. 142.

29. A Text-Book of Physiology. By Dr. G. Valentin, Professor of Physiology in the University of Bern. Translated and edited from the third German Edition. By William Brinton, M. D., &c. With upwards of 500 Illustrations on wood, copper, and stone. London: Renshaw, 1853. Part 2. 8vo. pp. 321 to 684.

30. Hand-Book of Organic Analysis; containing a detailed Account of the various Methods used in determining the Elementary Composition of Organic Substances. By Justus Liebig, Professor of Chemistry in the University of Munich. Edited by A. W. Hoffman, Ph.D., &c. London: Walton and Maberly, 1853. 12mo. pp. 135.

[Thanks are due to Dr. Hoffman for this English edition of Liebig's admirable Hand-book. It corresponds with the author's second German edition, and is therefore brought down fully to the present state of the science. Admirably got out, and beautifully illustrated, it must be in the hands of every chemical student.]



31. Thoughts on Cholera. By E. Hearne, M. B., &c. London: Churchill, 1853. Pamphlet, pp. 56.

32. Quackery and its Stronghold. From the Manchester Weekly Advertiser, September 3, 1853. A Letter by J. Herbert Barker, M. D.

33. Observations on the Remittent (so called) and Yellow Fevers of the West Indies. By David Lake Finlay, L. R. C. S. I. and L. A., Royal Mail Steam Packet Company's Service. Dublin: Fannin and Co., 1853. Pamphlet, pp. 30.

34. The Elements of Materia Medica and Therapeutics. By J. Pereira, M. D., F. R. S., &c. Third Edition, enlarged and improved; including Notices of most of the Medicinal Substances in use in the Civilised World, and forming an Encyclopædia of Materia Medica. Vol. II. Part 2. Edited by Alfred S. Taylor, M. D., &c., and George Owen Rees, M. D., &c., from the Notes and Memoranda of the late Dr. Pereira. London: Longmans, 1853. Svo. pp. 1539 to 2316.

[In our next.]

## PERIODICALS WITH WHICH THE DUBLIN QUARTERLY JOURNAL IS EXCHANGED.

### GREAT BRITAIN.

1. The British and Foreign Medico-Chirurgical Review and Journal of Practical Medicine. Published Quarterly. London: Churchill, and Highley. (Received No. 24.)

2. The Edinburgh Medical and Surgical Journal; exhibiting a concise View of the latest and most important Discoveries in Medicine, Surgery, and Pharmacy. Published Quarterly. Edinburgh: Black. (Received No. 197.)

3. The Retrospect of Medicine, being a half-yearly Journal, containing a retrospective View of every Discovery and practical Improvement in the Medical Sciences. Edited by W. Braithwaite. London: Simpkin and Co.

4. The Half-Yearly Abstract of the Medical Sciences, being a practical and analytical Digest of the principal British and Continental Medical Works, &c. Published Half-Yearly. Edited by W. H. Ranking, M. D., and C. B. Radcliffe, M. D. London: Churchill.

5. Pharmaceutical Journal and Transactions. Published Monthly. London. Edited by Jacob Bell. (Received regularly.)

6. The London, Edinburgh, and Dublin Philosophical Magazine and Journal of Science. Conducted by Sir David Brewster, Richard Taylor, Sir Robert Kane, and William Francis, Ph. D. Published Monthly. London: Taylor. (Received regularly.)

7. Monthly Journal of Medical Science. Edinburgh: Sutherland and Knox. (No. for June not received.)

8. The Chemist, a Monthly Journal of Chemical Philosophy and of Chemistry. Edited by J. and C. Watt. London: Highley. (Received regularly.)

9. Medical Times and Gazette. Published Weekly. London: John Churchill. (Received regularly.)

10. Medical Association Journal. Edited by John Rose Cormack, M. D. Published Weekly. London: Honeyman. (Received regularly.)

11. The Journal of Psychological Medicine and Mental Pathology. Edited by Forbes Winslow, M. D. Published Quarterly. London: Churchill. (Received No. 23.)

12. Quarterly Journal of Microscopical Science: including the Transactions of the Microscopical Society of London. Edited by E. Lankester, M. D., F. R. S., &c., and G. Busk, F. R. C. S. E., F. R. S., &c. London: Highley. (Received regularly.)

13. The Glasgow Medical Journal. Published Quarterly. Griffin and Co. (Received regularly.)

14. The Athenæum—Journal of English and Foreign Literature, Science, &c. Published Weekly. London. (Received regularly.)

15. The Westminster Review. Published Quarterly. London: John Chapman. (Received regularly.)

## AMERICA.

16. The American Journal of the Medical Sciences. Edited by Isaac Hays, M. D. Published Quarterly. Philadelphia: Lea and Blanchard. (Received regularly.)

17. The Medical Examiner and Record of Medical Science. Edited by F. G. Smith, M. D., and J. B. Biddle, M. D. Published Monthly. Philadelphia: Lindsay and Blakiston. (Received regularly.)

18. The New York Journal of Medicine and the Collateral Sciences. Edited by S. S. Purple, M. D., and S. Smith, M. D. Published Monthly. New York: Hudson. (Received regularly.)

19. The American Journal of Science and Arts; conducted by Professors Silliman and B. Silliman, Jun., and J. D. Dana. Published Bi-monthly. New Haven. (Received regularly.)

20. The American Journal of Insanity. Published by the New York State Lunatic Asylum, Utica, Quarterly. (Received Vol. X. No. 1.)

21. The American Journal of Dental Science. Edited by C. A. Harris, M. D., and A. A. Blandy, M. D. Published Quarterly. (Received Vol. III. No. 4. No. 3 not received.)

22. The Boston Medical and Surgical Journal. Published Weekly. Boston: Clapp. (Received regularly, except No. 1230, and part 252, which have not been received.)

23. The Charleston Medical Journal and Review. Edited and Published by D. J. Cain, M. D., and E. P. Porcher, M. D. Published bi-monthly. Charleston, S. C. (Received regularly for this Year; our Set is deficient in No. 1 of Vol. VI., and in the whole of Vol. VII., which we will thank the Editors to forward to us if they wish the Exchange to be continued.)

24. The Stethoscope and Virginia Medical Gazette. Edited by P. C. Gooch, M. D. Published Monthly. Richmond: Virginia. (Received regularly for this year; but our Set is deficient in Nos. 2, 3, 4, 5, 11, and 12 of Vol. I., and Nos. 1, 3, 4, 5, 7, 8, 9, and 11 of Vol. II., which we will thank the Editor to forward to us, if he wishes the Exchange to be continued.)

## FRANCE.

25. Gazette Médicale de Paris. Published Weekly. Paris. (Received regularly.)

26. Journal de Chimie Médicale, de Pharmacie, de Toxicologie, et Revue des nouvelles, scientifiques, nationales et étrangères, &c. Published Monthly. Paris: Labé. (Received regularly.)

27. Journal de Pharmacie et de Chimie, &c. Published Monthly. Paris: Victor Masson. (Received regularly.)

28. L'Union Médicale, Journal des intérêts scientifiques et pratiques, moraux et professionnels du Corps médical. Published three times a Week. Paris. (Received regularly.)



29. *La Lancette Française*, Gazette des Hôpitaux civils et militaires. Published three times a Week. Paris. (Received regularly.)
30. *Le Moniteur des Hôpitaux*, Journal des Progrès de la Médecine et de la Chirurgie Pratiques. Rédacteur en chef: M. H. de Castelnau. Paris. Published three times a Week. (Received regularly.)
31. *Revue Médicale Française et étrangère*, Journal des Progrès de la Médecine Hippocratique. Published twice a Month. Par J. B. Cayol. Paris. (Received regularly.)
32. *Revue Médico-Chirurgicale de Paris*. Sous la Direction de M. Malgaigne. Published Monthly. (Received regularly.)
33. *Archives Générales de Médecine; Journal Complémentaire des Sciences Médicales*. Published Monthly. Paris: Labé. (Received regularly.)
34. *Bulletin de l'Académie Nationale de Médecine*. Published Monthly. Paris: Baillière. (Not received.)
35. *Mémoires de l'Académie de Médecine*. (Received Vol. XVII.)
36. *Revue de Thérapeutique Médico-Chirurgicale*. Published twice a Month. Paris: Dr. A. Martin-Lauzer. (Received regularly.)
37. *Journal de Médecine et de Chirurgie Pratiques à l'Usage des Médecins Praticiens*. Published Monthly. Par Lucas Champonnière. Paris. (Received regularly, except the Number for last July.)
38. *Recueil de Médecine Vétérinaire*. Published Monthly. Paris: Labé. (Received regularly.)
39. *Journal des Connaissances Médicales pratiques et de Pharmacologie*. Published twice a Month. Paris. (Received regularly.)
40. *Annales Médico-Psychologiques*. Par MM. Baillarger, Brierre de Boismont, et Cerise. Published Quarterly. Paris: Victor Masson. (Received regularly.)
41. *Bulletin Général de Thérapeutique, Médicale et Chirurgicale*. Recueil pratique. Publiée par le Docteur Debout. Published twice a Month. Paris. (Received regularly.)
42. *Repertoire de Pharmacie*. Recueil pratique. Par M. le Dr. Bouchardat. Published Monthly. (Received regularly.)
43. *Annales des Maladies de la Peau et de la Syphilis*. Publiées par le Dr. Alphée Cazenave et le Dr. M. Chausit. Published Monthly. Paris. (No Number received since Part XII. Vol. IV.)
44. *Gazette Médicale de Strasbourg*. Published Monthly. (Received regularly.)
45. *Revue Thérapeutique du Midi, &c.* Publié par le Dr. Louis Saurel. Published twice a Month. Montpellier. (Received regularly, except the First Number for this Year.)
46. *Journal de Médecine de Bordeaux*. Rédacteur en chef, M. Costes. Published Monthly. (Received regularly.)

## BELGIUM.

47. *Annales D'Oculistique*. Fondées par le Docteur Florent Cunier. Published Monthly. Brussels. (Received regularly.)
48. *Nouvelle Encyclographie des Sciences Médicales*. Publiée par une Société de Médecins. Published Monthly. (Not received.)
49. *Annales et Bulletin de la Société de Médecine de Gand*. Published Monthly. (Received regularly.)

## GERMANY.

50. Zeitschrift für rationelle Medicin; herausgegeben Von Dr. J. Henle and Dr. C. Pfeufer, Professoren der Medizin an der Universität zu Heidelberg. Published Monthly. (Received Vol. III. No. 3.)

51. Der ärztliche Hausfreund, herausgegeben von R. Froriep. Landes-Industrie-Comptoir, in Weimar. (Received regularly.)

52. Zeitschrift der Kais. Kön. Gesellschaft der Aerzte zu Wien. Redacteur : Professor, Dr. Ferdinand Hebra. (Received Vol. IX. Nos. 6 and 7. Nos. 3 and 4, of Vol. VIII., not received.)

53. Vierteljahrschrift für die praktische Heilkunde, herausgegeben von der medicinischen Facultät in Prag. Published Quarterly. Karl André. (Received regularly. Parts 2 and 4, 1851, and Parts 2 and 3, 1850, not received.)

54. Annalen der Chemie und Pharmacie. Herausgegeben von F. Wöhler und J. Liebig. Published Monthly. Heidelberg. (Received regularly.)

55. Canstatt's Jahresbericht über die Fortschritte der gesammten Medicin in allen Ländern, im Jahre 1852. Redigirt von Pr. Scherer, Pr. Virchow, und Dr. Eisenmann. Würzburg: Stahel. (Received all the Parts for 1852.)

56. Journal für Kinderkrankheiten. Herausgegeben von Dr. Fr. J. Behrend und Dr. A. Hildebrand. Published Monthly. Erlangen: Palm und Enke. (Received Vol. XX., Nos. 5 and 6.)

## SWITZERLAND.

57. Verhandlungen der Naturforschenden. Gesellschaft in Zurich. Published Weekly. (Not yet received.)

## HOLLAND.

58. Geneeskundige Courant von het Koninkrijk der Nederlanden. (Not yet received.)

## DENMARK.

59. Bibliothek for Læger, Tredie Række. Udgivet af Direktionen for de classenske Literaturselskab. Redigeret af Dr. Dahlerup. Published Monthly. Kjobenhavn. (Not received.)

60. Hospitalsmeddelelser. Copenhagen. (Not received.)

## NORWAY.

61. Norsk Magazin, for Lægevidenskaben, udgivet af det medicinske Selskab i Christiania. Redigeret af W. Boeck. Faye. A. W. Münster. Lund. Voss. Published Monthly. Christiania: Feilberg & Landmark. (Received regularly.)

## SWEDEN.

62. Hygiea, Medicinsk och Pharmaceutisk Månads-Skrift. Published Monthly. Stockholm: Fritze. (Received Parts 3 to 7, for 1853. Part 11, for 1850, and Parts 9 to 12, 1849, not received.)

## ITALY.

63. Il Raccoglitore Medico di Fano; Giornale di Medicina e Chirurgia. Dal Dottori Malagodi e Franceschi. Published twice a Month. (Received regularly.)

64. Gazzetta Medica Italiana Federativa Toscana. Florence. Published Weekly. (Received all the Nos. of the New Series, except Nos. 32 to 36.)



65. *Buletino delle Scienze Mediche*. Pubblicato per cura della Società Medico-Chirurgica di Bologna. Published Monthly. (Received regularly. The April Number, for 1851, not received.)

66. *Correspondenza Scientifica in Roma*. (Received regularly, except No. 43.)

67. *Giornale Veneto di Scienze Mediche*. Published Monthly. (Received regularly.)

SPAIN.

68. *Boletin de Medicina, Cirurgia, y Farmacia*; Periodico oficial de la Sociedad Médica General de Socorros Mutuos. Madrid. Published Weekly. (Received regularly, except Nos. 33 and 82.)

69. *El Heraldo Médico*. Edited by Professor G. de le Vega. Madrid. Published Weekly. (Received regularly. Nos. 2 to 13 not received.)

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## NOTICES TO CORRESPONDENTS.

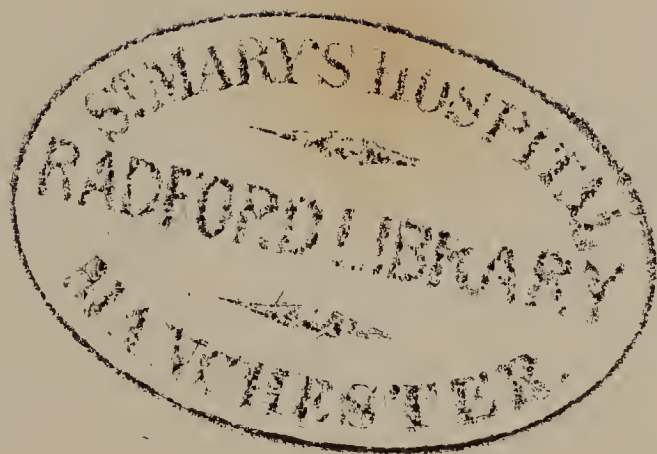
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IN the present Number of our Journal we present our readers with the usual annual epitome of the progress of Psychological Medicine during the past year. The extended space which it occupies has compelled us to postpone some Original Articles and Reviews until February.

In continuation of our Gallery of the living eminent Physicians and Surgeons of Ireland, our Subscribers are presented with the accompanying Portrait of Mr. Cusack, from an original drawing.

In answer to several Correspondents we beg to state that the highly valuable Essay of Sir Henry Marsh on Dropsy will be continued in our February Number.

Books and Periodicals published in Northern Europe, intended for our Journal, should be transmitted "For the Editor of the Dublin Quarterly Medical Journal, care of Messrs. Williams and Norgate, London." Our Correspondents in France, Belgium, Southern Germany, Italy, and Spain, are requested to communicate with us through "Doctor Higgins, 30, Rue Rivoli, Paris."







From a Daguerreotype by Geary Br.<sup>s</sup>

*H. Marsh*



THE DUBLIN  
QUARTERLY JOURNAL  
OF  
MEDICAL SCIENCE.

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AUGUST 1, 1853.

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PART I.  
ORIGINAL COMMUNICATIONS.

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ART. I.—*Reflections on the Causes of Dropsy.* By SIR HENRY MARSH, Bart.

(Continued from Vol. XII. p. 278.)

BEFORE I proceed further in the consideration of the hemorrhages it will be expedient to dwell as succinctly as possible upon that variety of extravasation which I have formerly termed the white blood hemorrhage, or, in other words, dropsy or hydrops, so called from the resemblance which the uncoloured extravasation derived from the serum of the blood bears to water. In this there is more an appearance than a reality of divergence from my original subject.

In the year 1846 I published in this Journal some remarks upon chlorosis and hemorrhage, with the view of contrasting the one with the other, and also of contrasting the red blood and the white blood hemorrhages. The word hemorrhage is applicable to both because both are derived from the blood<sup>a</sup>. I also remarked upon some of the pathological differences be-

<sup>a</sup> Between the red blood and the white blood hemorrhage there is this difference, that the former is an extravasation of the blood in its entirety, whereas the latter is one of only certain portions of the blood, either not mingled at all, or but in a small degree mingled with red corpuscles.



tween chlorotic and hemorrhagic blood, the first low in density and in the proportion of red corpuscles; the second, ere yet reiterated hemorrhages have thinned and debased the blood, abnormally exalted in density, superabundant in red corpuscles, and deficient in fibrine.

It is now my purpose, that the subject of the hemorrhages may be rendered more clear, to make a few general remarks upon the causes of the white blood hemorrhages, or dropsies. To expose my views on this subject I shall speak of dropsy under three distinct heads: atonic dropsy, obstructive dropsy, inflammatory dropsy. There are few of the dropsies which we daily meet with in practice that will not find a befitting place under one or more of these heads.

By atonic dropsy I mean all those dropsical effusions which are the results of pre-existing morbid or febrile action,—of wasting and softening of the solids, of degeneration of the blood, and consequent atonicity of the vascular tissue.

By obstructive dropsy I would imply all those dropsies which result from organic disease of the heart, lungs, liver, spleen, &c.; and from tumours and other morbid growths which mechanically obstruct the circulation,—such obstruction causing the blood to stagnate in and to distend the venous trunks and capillary system, so that they become surcharged, and are compelled, if I may so say, to seek relief by a serous extravasation. When I reach this part of my subject I shall have occasion to show that obstruction is frequently not the sole cause of the white blood extravasation,—that more than one cause is influential.

By inflammatory dropsy I mean all those dropsies, and they are many in number and variety, which owe their origin to serous inflammation. This most important branch of my subject will require hereafter to be fully explored<sup>a</sup>.

The red blood hemorrhages, as I have elsewhere noted, are naturally and practically divisible into the passive and the active. No two varieties of the same disease can be more diverse in causality and treatment—when the cases are well marked—than are the active and the passive red blood hemorrhages. The same observation is strictly applicable to the white blood hemorrhages or dropsies. The atonic hydropic effusions represent the passive red hemorrhages; the inflammatory, the active:—the parallel is perfect. Between the passive and active dropsies there are some remarkable discrepancies which may just be glanced at.

<sup>a</sup> Many of those dropsies to which the epithet encysted is by some writers applied, will find a place under this head.

In the passive or atonic the effusion takes place usually towards the close of prolonged chronic diseases,—it is one of the latest and most fatal indications: whereas in the active or inflammatory, serous extravasation is often synchronous with the first signs of morbid action. This is particularly remarkable in the anasarca of albuminuria<sup>a</sup>.

In the passive or atonic the extravasation is generally first perceived in the most depending parts, commencing slightly and gradually, ascending from below upwards, invading the infracutaneous serous tissue, and ultimately the serous tissue of the cavities. But such is not ordinarily the course of active dropsy.

There is another very remarkable difference between these distinct varieties, viz., that which relates to the density of the extravasated fluid. In the passive or atonic dropsy it is, with not many exceptions, exceedingly thin and fluid; it consists, in fact, of the thinnest serosity,—only the most watery parts of the blood are exhaled. A proof of this is derivable from the slight degree of pressure needful to produce a pitting or indentation, and the rapidity with which the pitting or dimple is obliterated, and the fluid replaced; and in extreme cases, the transparency of the skin shows the fluidity and clearness of the subjacent extravasation; whereas generally in acute anasarca the effused fluid is more opaque, dense, firm, and resisting; a heavier pressure is required to produce a dimple; the dimple or pit is more slowly effaced. In some cases the fluid productive of anasarca is so thick and glutinous, that it requires much force to displace it, and, being displaced, very slowly is the smoothness of the skin restored. So great is the density sometimes, that even in those parts of the body where the cuticle and cutis are thinnest and softest, scarcely any amount of pressure can cause an impression; and thus we have presented to us that which I shall have occasion to dwell upon hereafter, viz., the anasarca dura,—a very interesting variety of anasarca. It belongs to the inflammatory section of dropsical effusions, and shall there be treated of. There results from the density and tenacity of the effused fluid another and conclusive test, viz., acupuncture. In the passive dropsy the tenuity of the fluid enables it to escape through the punctures freely and copiously, and in a stream. In the active, it escapes slowly and unwillingly, or, in some cases, not at all; consequently these are cases in which acupuncture is absolutely fruitless.

<sup>a</sup> I use the word “albuminuria” because, whilst it points to a specific disease, it implies not a theory, but a fact.



Such are, in a general way, some of the signs which in well-marked cases distinguish the active and passive varieties of dropsy.

Between the extremes of the thinnest serosity and the densest white blood exudations, the gradations are numberless, and often imperceptible; they pass insensibly from the one into the other. In all animated nature, when extremes approach, the lines of demarcation are oftentimes inappreciable. This, in disease, is as true as in the various kingdoms of organized nature; and therefore it is necessary, in the study of disease, to arrive at just conclusions by the contemplation of clear, distinct, and well-defined cases.

There is another distinction between active and passive dropsies which just occurs to my mind. In passive dropsies, the effused fluid is, with few exceptions, unmingled with the red corpuscles of the blood; they are rarely suffered to escape. In active or inflammatory exudations, the admixture of red corpuscles is of far more frequent occurrence. Why this should be the case, and what the true nature of serous inflammation is, I will endeavour to expose when the inflammatory dropsies shall be treated of<sup>a</sup>.

The great interest which attaches itself to the careful study of white blood abnormal extravasations is derived, not only from therapeutic considerations, but also from the vast variety of pathological changes both in the fluids and solids which give origin to this frequently ominous symptom.

In reviewing the causes of passive or atonic dropsy, the clearest perceptions will be obtained by a brief statement of the facts of a few expressive cases. This symptom sometimes springs from a morbid change in the blood alone; sometimes from the more formidable source of organic visceral disease giving rise to a morbid change in the blood. When chronic visceral disorganizations terminate in dropsy, I have known as much terror excited in the patient's mind by the first appearance of œdema in the insteps and ankles, as there is by a sudden attack of profuse hæmoptysis.

Œdema of the feet and ankles is often first distinctly perceived at bed-time. In the recumbent position the thin fluid diffuses itself through the areolar tissue. In the morning it has apparently vanished, but towards night the dreaded symp-

<sup>a</sup> The true cause of the infra-cutaneous extravasation which takes place at the commencement of renal anasarca is, I am persuaded, to be traced to serous or albuminous inflammation affecting the infra-cutaneous serous tissue; an inflammation precisely of the same nature as, and in all respects analogous to, that which affects the kidneys.

tom re-establishes itself. When the patient resumes the sitting position, the fluid gravitates downwards, and the patient finds his legs again swollen, and thus his fond and vain hopes are dissipated. Great indeed is the popular dread not only of the appearance, but of the very name, of dropsy, and there is no disease more dreaded than that popularly called water on the chest.

The following fact, which I noted twenty-seven or twenty-eight years ago, impressed itself strongly at the time upon my mind, and I have often since in my lectures recurred to it as an exemplification of the passive or atonic dropsy without organic lesion.

A gentleman, thirty-five years of age, having been not more than three weeks recovered from maculated fever, performed in a remarkably easy carriage, and in summer, a journey of about fifty miles. The fever was one of the most formidable character, the undoubted offspring of contagion, so dangerous that at one time his medical attendants abandoned all hope of his recovery. At an early stage of the disease he was bled from the arm to ten ounces; subsequently so urgent were the cerebral symptoms that he was largely and repeatedly leeches. His skin was universally and darkly maculated; the fever was a protracted one; scarcely before the twenty-first day could it be said that it had quite subsided; the period of convalescence was painfully protracted by extensive sloughing of the nates. When the sores were healed, and strength somewhat reinstated, he travelled fifty miles from the city, and on reaching the end of his journey, he complained of stiffness in the joints of the lower limbs. The drawers and stockings were with difficulty removed. He was very much shocked and alarmed to find his limbs, as high as the hips, immensely swollen, and pitting everywhere on the slightest pressure; the scrotum and penis were also much distended.

The functions were all healthily performed; urine perfectly natural; bowels regular; no sign whatsoever of organic lesion, only he was pallid in the extreme, and greatly reduced in flesh and strength. Mild medicine, tonic and diuretic, pure bracing air, improving appetite and diet, wrought in this gentleman a miraculous and speedy change for the better. After the lapse of a few days the dropsy was so far subdued that he was enabled to take quiet walking exercise in the open air, which seemed to have the effect of promoting absorption. The improvement of the general health, and the subsidence of the dropsy, moved together "*pari passu*;" no long time elapsed ere restoration was perfected. He is now in robust and vigo-



rous health; never before nor since has he shown the slightest tendency to any form or variety of hydropic effusion. During the fever I remained constantly with him, and accompanied him in his journey. I was then a tyro, but at the time and often since I have thought that had he been less profusely bled, he might have been spared the extreme debility and the sloughing.

This example appears to me a good illustration of dropsy as a result of the wasting and softening of the tissues without organic lesion of any of the solid viscera.

There were in this case a prolonged and dangerous fever, and a tedious convalescence.

Now, the essential characteristic of all fevers, whether idiopathic or symptomatic, is a wasting and softening of the tissues. Febrile movements in the system present themselves under an infinite variety of forms, yet there is one point at which they all meet, viz., a wasting and softening of the tissues, whether it be the short-lived paroxysm of intermittent fever, or the persistent hectic fever, or the irritative or continued or remittent fever, or any of the intervening varieties,—it is a fact, that so long as the febrile movement is in operation, there is and must be a wasting and softening of the tissues, rapid in some cases, exceedingly gradual and slow in other cases, hence the condition is produced which may issue in atonic dropsy.

It should be kept in mind also, that so long as fever is operative upon the system, the digestive function is enfeebled,—the nutriment received into the stomach lowered in quantity, as well as in quality, often to an extreme degree; frequently the food is liquid, watery, and almost purely farinaceous. From this cause, as well as from morbid action, the function of sanguification is altered, and the blood degenerated and rendered less capable of stimulating the vascular system to the healthy discharge of its duties. This is precisely the condition of the liquids and solids which predisposes to dropsical effusions of the atonic character; or, in few words, the blood is degenerated, the tonicity and contractile force of the vascular tissue depressed, and hence, spontaneously (or, as happened in the case above narrated, after slight and premature exertion whilst in a state of extreme debility), congestion takes place, and a thin serosity is extravasated. So long as the cause remains, this persists and increases; the cause removed, it is wonderful with what celerity the absorbents—those ever-busy little creatures, always ready to undertake any new and extraneous office, ever prepared for all emergencies, sometimes

for more than is required of them—set themselves to work, and cause to be carried off, through some one or other of the emunctories, the superabundant fluid: the thinner the fluid, the more readily is their task performed. In the case narrated, when the tone of the system was elevated, it was not a little remarkable how very rapidly the extravasated fluid was absorbed. I have seen such an amount of fluid within a few hours absorbed and carried off through the kidneys as would exceed credibility.

As a proof of the share which impaired tonicity has in predisposing to hydropic effusions, I may mention the case of a patient admitted some years ago into Steevens' Hospital. He had been not long before discharged as convalescent from a fever hospital. His appearance was that of extreme wretchedness and destitution; he was paralyzed on the right side; the whole of the right side was one pellucid mass of dropsical effusion, pitting on the slightest touch. Along the left side there was not a trace of effusion, not even at the ankle or instep. When undressed, he presented as strange an appearance as ever met my eye.

I saw this day a gentleman, aged 65, whom I had seen several times within the last three months. When I first saw him both limbs were œdematous. There was effusion also into the infra-cutaneous serous membrane of the penis, scrotum, and abdomen,—the cause, obstructive disease of the heart. The right limb was swollen far more than the left, even at one time to double its size. He had, for years antecedently, chronic disease of the hip-joint, which issued in shortening and wasting of the limb. The heart's action has been rendered more tranquil; the effusion has been absorbed; a slight œdema at the ankle and instep of the wasted limb still remains.

I have seen cases of inveterate disease of the sciatic nerve in which atrophy of the affected limb was followed by œdema. Thus it happens that atonicity of the vascular tissue is one of the predisposing causes of atonic dropsy<sup>a</sup>.

The atonic dropsy, of which we now speak, is most apt to arise in those forms of wasting disease which involve—in impaired function—the digestive apparatus. For example, there may be, and often is, chronic and ultimately fatal disease of the brain with paralysis, and all the while the patient eats largely and fattens. Many other instances might be adduced

<sup>a</sup> Sometimes the atrophy of a limb is caused principally by interruption to habitual muscular action. There are cases of paralysis in which the pulse of the paralyzed limb is weaker than at the sound side. Such are examples of lowered vascular force and contractility.



of both acute and chronic disease, not in the least involving the conditions necessary to the production of atonic dropsy.

The following case exhibits, distinctly featured, the variety of dropsy now under consideration. It is the only example of the disease described by me some years ago in this Journal, under the title of "Regurgitation without Nausea," that I have met with, of which dropsical effusion was a symptom.

An unmarried woman, twenty-three years of age, rather tall, with a light olive tint of skin, and dark hair, was three years ago affected with small strumous abscesses upon the wrist of the left hand; slow and tedious was the course they ran; they suppurated and cicatrized, leaving the characteristic marks. Scarcely had they cicatrized when she began, without the slightest nausea or sickness, to regurgitate her food. A very large proportion (her friends intimated all) of the food received at each meal was, portion after portion, without the least feeling of distress, returned. The daily regurgitation of a large portion of every meal had, for upwards of two years, persisted. Animal food, till within the last few weeks, had been loathed. All the usual garden vegetables were instantly regurgitated. Potato and egg remained not a moment. Except cream in very small quantity, no oleaginous article of diet was retained in the stomach. Bread in various forms, biscuits, and pea and bean flour, well cooked, seemed to suit the stomach better than other substantial articles of food. Broths and jellies were particularly disliked. For weeks the patient was almost wholly sustained by asses' milk: this too was ultimately loathed. No matter what the food, the daily regurgitation went on, much more of some than of other dietetic substances being ejected.

This case was not an exception to the general rule observable in this disease, namely, that whilst the food is regurgitated, medicine is retained.

Gradually, almost imperceptibly, she became emaciated, until at length she was reduced to a state of attenuation, as low as I have ever in the final stage of phthisis witnessed. The pulse a thread; the heart's sounds, emaciated as she was, barely audible; muscular power prostrated; mental energies reduced to nearly a state of apathy; deficiency of animal heat; chilliness and icy coldness of extremities. The bowels, except stimulated by aloes, never evacuated; the catamenia entirely suppressed; the renal excretion diminished in quantity, in quality normal. Such was the state of the patient when a slight œdema at the ankles was first perceived; rapid was its upward extension till it reached the knees and hips; greatly were the limbs

swollen; extravasation, undiscernible by the eye, was diffused over the trunk, and was detected by the sustained pressure of the stethoscope leaving a circular pitting or indentation. The transparency as well as softness of the œdema were not a little remarkable. Chalybeates were now given in very full doses, and did not fail to produce effects the most salutary. The advancing progress of exudation was arrested; nutriment was more abundantly received and digested; the œdema gradually abated, and after a time wholly disappeared. This patient was afterwards attacked with influenza fever, and bronchitis. For several days she was compelled to remain in bed; she was again greatly emaciated and debilitated. When she recovered, so far as no longer to be obliged to remain in the recumbent position, the dropsy partially reappeared; again it yielded to the same tonic and ferruginous treatment. Her recovery had now so much progressed that my apprehensions as to the existence of obscure glandular disease, involving, perhaps, the thoracic duct, were proved to be groundless.

In this example of general anasarca there were present all the causes which predispose to white blood effusions of the greatest tenuity; prolonged derangement of the digestive functions, wasting of the tissues, degeneration, and, as happened in this instance, diminution of the quantity of the circulating fluids, and atony of the vascular system. This was rendered manifest by the persistent smallness and weakness of the pulse, and by the continued feeble action of the heart. The result was dropsical effusion, and that too, as I believe, without any visceral disorganization. This case was not one of chlorosis; it was destitute of the essential features of this affection—not many cases of true chlorosis terminate in atonic dropsy. I have, however, seen cases of chlorosis which, in defiance of all treatment, have terminated in dropsy and death. But, in general, few diseases more unfailingly submit to well-directed treatment than chlorosis.

Of the following case, the notes of which I have long preserved, elucidative of the form of dropsy now under deliberation, I shall give a brief and much condensed statement:—

A young and beautiful woman, in the middle rank of life, highly but self-educated, of great mental endowment, of admirable taste, and strong sensibility and attachment, was, unconsciously, the one by whose hand a poisonous dose was administered to her sole surviving parent, to whom she was attached with all the fervour and devotedness of a daughter's love. The phial contained an ounce and a half of laudanum: it was given in mistake for a senna draught. When presented to him by his



daughter, he tasted it, and said he did not like it, and would not take it. He had not been in good health. It was with much entreaty he was ever prevailed upon to take the medicines prescribed. She urged him, in terms the most affectionate and persuasive, to take his draught. He replied, "Dearest, you know I never can refuse you anything," and swallowed it. Three hours passed away before she was aware of her terrible mistake. She was aroused to it by the perception of the state of stupor into which her father had fallen, when it flashed across her mind. She found the senna draught, which she intended to have given, untouched; she also found the word *poison* printed in large letters on the empty phial. The shock to her mind was terrific; she became like one insane. All possible means were employed to save the life of the poisoned man, but they were employed too late. He died profoundly comatose at the end of a few hours. From the moment of his last expiration a change came over her; she was lost to all knowledge or notice of persons and occurrences around; she lay like a statue, pale and motionless; food she never took, except when it was placed upon her tongue. The only sound which escaped her lips was a faint "yes" or "no." When asked what ailed her, she would place her hand upon her heart. Her extremities were cold; she sighed and shivered frequently, and dozed brokenly and protractedly. To her the world, and all things in it, were a blank. Tonics and stimulants were administered; air and scene were changed; kind and compassionate relations and friends tried, and tried in vain, to rouse and to console; she pined away, and nought but a breathing skeleton remained. She lingered on, with very little variety or alteration of symptom, for ten months. Before her dissolution she became œdematous. The swelling, soft and transparent, was first perceived in the lower extremities; it gradually progressed upwards; it became apparent on the backs of the hands, along the arms, and ultimately it was universal.

All the viscera, spinal, cerebral, thoracic, and abdominal, were patiently and minutely examined: no trace of organic change of structure could be detected. There was a copious effusion of thin, transparent serum into every cavity, into every serous tissue. The pericardium was separated from the heart by an abundant effusion; the large amount of the dropsical effusion contrasted strangely with the extreme attenuation. In this case, to repress the increasing dropsy, acupuncture had been several times practised, always with relieving effect; even with this deduction the viscera appeared, as it were, bathed in water.

This poor patient, beaten down in mind and body, breathed her last without a moan or a painful struggle. The mental shock had paralyzed the vital actions, an evidence that in real life events do occur which transcend even the highest flights of fiction.

An almost total suspension of nutrition, sanguification, and vascular energy, characterized this case. The result was universal dropsy, consisting in the thinnest serosity.

I shall transfer to these pages cases formerly published in my essay on chlorosis—cases in which life appeared to have been saved by acupuncture. They are precisely the kind of cases to which acupuncture can most safely and most curatively be applied.

Acupuncture removed the tension or vascular congestion which impeded the function of the absorbents: after its relieving action there was a copious flow of urine, a rapid subsidence of the dropsy, just as happens in that variety of dropsy (hereafter to be described) which has been termed obstructive dropsy.

In obstructive cardiac disease, the dropsy often increases despite the most powerful diuretic and cathartic medicines: one small bleeding from the arm suffices to alter the whole condition of the vascular system. The congestive tension of the vessels is removed; immediately the absorbents work, and the diuresis becomes profuse. The bleeding is adopted not at all with the view of subduing inflammatory action, but solely with the intention of unloading the congestion of the vessels, and giving full scope to the action of the absorbents.

For this valuable practical rule I am indebted to my late friend, colleague, and relative, Dr. John Crampton, who has, by lectures and publications, by useful suggestions in the treatment of disease, done very much to enhance the value and to enlarge the domain of clinical instruction and science in this metropolis. I shall have occasion again to revert to Dr. Crampton's published recommendation of bleeding in dropsy, and when and where it is applicable. The following cases are well calculated to illustrate the subject of the present investigation:—

“A married lady, aged 19, had been for several months labouring under gradually increasing chlorosis. Previously to her marriage she had looked pale and delicate, and had lost much of her accustomed health, strength, and spirits. Marriage, it had been expected, would have had a salutary effect; and for a short time, whilst travelling, her health appeared to improve. She again, however, became languid, de-



pressed, and pallid, and at length universally anasarcaous. In this state I first saw her. She was confined to bed; her debility so great that it was with difficulty she could be moved; and her whole person was enormously distended. Her face was œdematous, but less so than every other part of her body; a copious serous effusion had taken place universally into the cells of the subcutaneous serous tissue. Her pulse was incalculably rapid, and so feeble that it was with difficulty it could be felt at the wrist. The heart's impulses were languid in the extreme, but unaccompanied by any abnormal sound. The respiration was permanently and greatly accelerated. The alvine excretions were liquid and of light yellow colour; she was so weak and helpless that she could not be placed on the bed-pan. The urine was light-coloured, not copious, of low specific gravity, but without a trace of albumen. A variety of treatment, both tonic and diuretic, had been in vain employed, and all hope of recovery abandoned; and yet there was no evidence of organic disease; the sole change which had taken place was in the blood itself. From the appearance of the skin, and from the slightness of the pressure necessary to displace the fluid, it was evident that the effusion was of the thinnest nature. Under these circumstances I thought this an unusually favourable case for acupuncture. The operation was immediately performed; a great number of punctures were made, from which thin serum flowed copiously, and much care was taken to keep the patient dry and warm. Common salt was dissolved in water, to which the muriated tincture of iron was added; and of this as much was given, at regular intervals, as the stomach could easily endure; together with farinaceous nutriment and wine. On the next day the patient's condition was in every respect an improved one; the anasarca was diminished, the pulse more distinct and less frequent, the respiration less hurried, and the urine much increased in quantity. On the second day many additional punctures were made, and on the third day they were again repeated. After this day the greatly increased flow of urine, and the marked diminution of every urgent symptom, rendered it unnecessary to reiterate the operation. She gradually—I may truly say rapidly—recovered; her restoration was perfect; she became vigorous and even florid; she has borne several children; and many years have since elapsed, leaving her in the enjoyment of uninterrupted health.

“ The next case I shall record is one of great interest,—a case of extreme anasarca, the result of anæmia, and without organic lesion, occurring in an hospital patient. He was

about thirty years of age, had never lived intemperately, and was superior to the generality of hospital patients in manner and education. His life had been spent in an office, at the desk, the nature of his occupation permitting him to take very little exercise. By long continued and frequently profuse bleeding from the hemorrhoidal vessels, he was reduced to a state of complete anæmia, and, owing to extreme debility, had been compelled to give up his situation as a clerk. When admitted into hospital he was universally anasarcaous. The first signs of œdema manifested themselves in the lower extremities and face; his respiration was hurried; his pulse feeble and rapid; no murmur accompanied the cardiac movements, nor was there any auricular evidence of deposition in the pulmonary cells. The urine was scanty, low in density, and not albuminous. He remained for several days in hospital, and the symptoms not being in the least degree submissive to treatment, it was determined to give exit to the fluid by acupuncture. Numerous punctures were made, during several successive days, in different parts of the body; the thin serum flowed freely; the anasarca subsided; the secretions became abundant; and the treatment ultimately issued in a complete restoration to health. His diet was gradually rendered more and more nutritious; he was allowed wine and malt liquor; and, after the operations, his medicines were iron and ammonia. I cannot avoid recording an emphatic expression used by this man. After having been twice acupunctured, and when the serum was flowing profusely, I asked him how he felt? His reply was: ‘Sir, I feel greatly relieved: when I was a boy, I wept from my eyes; now that I am a man, I weep from my whole body.’”

I also append the following observations, which were originally published with these cases, as they illustrate remarkably my present subject:—

“These cases illustrate the circumstances under which the operation of acupuncture may be most advantageously employed; indeed the only circumstances which give to it a permanent value. It may often be practised usefully as a palliative: rarely, however, is it a curative measure. In dropsy from organic disease it removes the tension, and enables the blood to circulate more freely, so that the medicines may act, and the effused fluid be absorbed; but the organic disease remains, and the dropsy returns. In the foregoing cases there was no organic lesion, either cardiac, pulmonary, hepatic, splenic, or renal. The tension being removed, and the medicines enabled to produce their full effect, the serous effusion



was absorbed, the constitution invigorated, the quality of the blood improved, and the cure rendered perfect. Far otherwise is it in those vastly more numerous cases of dropsy, resulting from morbid change and deposition in organs essential to life; in many of these, acupuncture is an useful adjuvant in the treatment, but it cannot remove the cause of the effusion.

“Trifling as this operation is, I have seen it followed by consequences the most disastrous,—erysipelas and gangrene. In advanced cases of dropsy, when the blood is much altered,—all but disorganized,—it is dangerous to puncture the skin. I have also seen cases in which, from the perpetual oozing of cold serum, the broken-down state of the health and of the blood, each puncture has been followed by a large and foul ulcer. In other instances of hopeless dropsy, even though the patient escape these grave consequences of acupuncture, the limbs have been kept so constantly wet and cold as greatly to distress the patient and aggravate his sufferings. It requires, then, observation and judgment to distinguish the cases in which this remedy may be safely and successfully employed. It may be here remarked, that the more limpid and less dense the effusion, the more favourable is the case for acupuncture. I have observed many cases of anasarca resulting from organic renal disease, wherein it required strong pressure to produce a pit or dimple; nay more, the limbs have been so rigid as to render the joints immovable, such has been the density and solidity of the matter which occupied the subcutaneous serous tissue.

“I saw, some years ago, in consultation with Sir Philip Crampton, a very remarkable case of anæmic dropsy: the patient was about thirty-five years of age; he had been reduced by long-continued and profuse hemorrhoidal bleeding to a state of extreme anæmia. The prominent symptoms were, death-like pallor, excessive debility, languor, constant dyspnœa, occasional orthopnœa, bellows murmur of the heart and arteries, universal anasarca, and peritoneal effusion. Sir P. Crampton, by an operation, put an end to the sanguineous exudation; whereupon a rally took place; and then tonics, diuretics, moderate stimuli, and nutritious diet, completed the cure.”

Repeatedly I have witnessed the interesting phenomenon of red and white blood extravasations co-existing at the same time and in the same person. This occurs in purpura hæmorrhagica: the white blood extravasation, indicating the ruined state of the blood, takes place at an advanced state of the disease, and points but too surely to a fatal issue; whilst blood in its entirety is oozing in all directions from mucous surfaces, and

staining with spots and ecchymoses the skin under the cuticle; the white portion of the blood, reduced to a state of the utmost tenuity, is occupying and distending the spaces of the serous membranes, both under the external skin and in the serous sacs or surfaces involving the internal viscera. The one from the mucous outlets generally escapes, whether the red blood flows from the nares, or intestines, or bronchi, or bladder, or vagina; after extravasation, it is expelled from the body—not so with white blood extravasation—into serous tissues. It is pent up; it cannot find immediate exit; hence the necessity of effecting its removal from the body, either by absorption, or by ulceration, or by instrumental operation.

The cases hitherto recorded have reference to *blood*, not to *visceral* disease. Of atonic dropsies, the first variety is the most amenable to treatment.

Dropsy, always formidable, assumes its most fatal aspect when linked with visceral disorganization. In such cases, though it may often be removed, yet, the cause remaining—probably increasing in intensity—it will again and again recur; and this harbinger of dissolution at length refuses to yield to treatment, however varied. It often, however, claims the first and most important place in the adaptation of remedies. Hence the great variety of substances derived from the mineral and vegetable kingdoms which, possessed of diuretic properties, are earnestly sought after. It is a fact that diuretics must be varied: those which to-day are eminently successful will on a future day grievously disappoint expectation. Amongst diuretics, mercury holds and maintains the first place. There is, perhaps, no combination of medicine more frequently or surely to be relied upon than the diuretic compound judiciously administered—consisting in mercury, squill, and digitalis.

I shall not multiply cases of atonic dropsy, resulting from intractable and destructive morbid action, affecting an important viscus, the normal functions of which are essential to the preservation of life. The *permanent* cure of dropsy depends upon the removal of its cause. If all treatment fail to remove the cause, the symptom, dropsy, will resist all efforts directed towards its *permanent* cure. It may often be temporarily removed, but if the cause remain, as surely as the tide which ebbs will flow again, so surely will the dropsy, if the patient still linger on, re-appear.

A case has but lately fallen under my observation of protracted disease of the alimentary canal: it terminated, after a



long illness, fatally. For many weeks all solid and substantial food was rejected by vomiting: no articles of diet were retained except those which are lowest in the scale of nutrition, and, like an infant's food, in a highly liquid state; there was also a perpetually recurring diarrhœa. About a fortnight before the fatal termination of the disease, œdema, manifesting the signs of the thinnest serosity, appeared, though the patient had been previously, and was then wholly confined to bed, and always in the recumbent position, in the lower extremities: first, at the insteps and ankles, and, advancing hourly, reached the hips, and extended along the most dependent parts of the trunk. The dropsical distention was very great, and particularly in the lumbar region. In the superior extremities and anterior parts of the trunk, though present, it was less discernible. No doubt could exist that there was in this case organic disease of the stomach and extensive ulceration of the intestines. Everything essential to the production of atonic dropsy was in this case present.

Yesterday I took a brief note of the following case:—A gentleman, aged 64; his countenance expressive of malignant disease; food received into the stomach seems to himself not to descend; immediately on being swallowed it is rejected by vomiting; he is thus for the time relieved; the vomiting, at first slight, has lasted for four months; he is greatly emaciated; hiccups frequently; feels most easy when in bed; great debility referred chiefly to limbs; pulse very small; heart sounds feeble; urine natural; bowels regular; a soft, semi-transparent œdema fills up and distends the lower extremities, reaching half-way up the thigh.

To these many such like cases might be added. It is needless: they tend to confirm the view already put forward—namely, that the cases most apt to terminate in atonic dropsy are those which involve in morbid action the alimentary canal and its appendages.

Some persons are constitutionally, from temperament, liable to serous effusions. With such, a smaller amount of disease is capable of producing dropsy; at an earlier stage of a malady it will set in; moreover, the catastrophe of an hydropic effusion may, by general management, be either precipitated or retarded, or even averted. If the diet be well suited to the enfeebled digestive function; if the heart be not unduly stimulated by ardent liquors, by mental emotions and passions, by muscular exertions, and other such causes; and if quiet and recumbency be sufficiently maintained, these dropsical effusions may be

postponed, or possibly even averted. Influenced by an opposite mode of management and treatment, it may be accelerated. This remark is applicable only to some forms of dropsy.

The rapidity with which I have sometimes observed a large effusion in a poor hospital patient to be carried off has surprised me. The influence of new and unaccustomed circumstances, the altered diet, the quiet and recumbency, have appeared to have been mainly instrumental in effecting this great alteration in the functions of the vascular system.

Some weeks ago a poor woman, affected with aneurism of the arch of the aorta, was admitted into Steevens' Hospital. The tumour pulsated vehemently and prominently. She suffered intensely from neural pains, shooting from the sternum to the spine, and along the left arm. She remained several weeks in hospital, and, feeling herself much relieved, she returned home. At the end of a month she was re-admitted. In the interim copious effusion had taken place into the infra-cutaneous serous tissue of the thorax and arm, on the left side. Whilst at home she was stinted in food, and it was not only scanty but coarse; she was also obliged to work. After her re-admission she remained quiet and recumbent, and her diet was carefully regulated. Scarcely had ten or twelve days elapsed until every trace of the effused fluid had vanished. It had so happened that the medicine ordered for her she had not taken.

In the cure of dropsy, treatment should not be restricted to medicine; systematic and dietetic treatment should never be neglected. I have said that dropsical effusions are influenced by temperament; it is also true that they are influenced by previous habits and manner of living. As far as my observation has reached, I should be disposed to assert that those *sudden* effusions into the ventricles of the brain, and also those into the pleural and peritoneal sacs, which occur in cases of renal, and sometimes in cardiac, diseases, are much less likely to occur in the atonic than in the obstructive and inflammatory varieties of dropsy.

This section of the subject shall here be brought to a close: a few pages of a future Number of this Journal will, I hope, be devoted to the investigation of the causes of obstructive dropsy.



ART. II.—*On Extirpation of the entire Upper Jaw, illustrated by a Case in which it was removed, together with the whole of the Palate Bone, on account of a large Fibro-vascular Tumour springing from the Antrum.* By RICHARD G. H. BUTCHER, F.R.C.S.I., Surgeon to Mercer's Hospital, Member of Council of the Royal College of Surgeons in Ireland, and Examiner on Anatomy, Physiology, and Pathology thereto for the past five years, &c. &c.

THERE are certain forms of disease affecting the cavity of the antrum, as well as others springing from its walls, and involving the osseous tissue, which call for the operative interference of the surgeon, and demand the removal of the upper jaw, either in part or in its totality. I allude more particularly to various morbid growths and tumours, characterized as fibrous, cartilaginous, encephaloid, fatty, erectile, or osseous, in their nature. It is true, that all do not run to a fatal issue with the same rapidity; but it is equally certain that the most benign in character may, by enlargement, produce such an impairment of, and pressure upon, the surrounding organs and textures as must ultimately prove fatal.

The operations on the upper jaw may, in reality, be classed under two heads,—that of the exsection and that of the disarticulation of the bone; and this I conceive to be a wholesome division of the subject, for by it may be cleared up the discrepancy which prevails amongst writers, relative to the priority in this operation claimed by illustrious surgeons.

Years ago, so far back even as 1693, a part of the upper jaw was removed by Akoluthus, a physician at Breslau. He being consulted by a woman who had a tumour on the jaw which followed the extraction of a tooth, enlarged the mouth with a cut, removed part of the swelling, together with four teeth, but not being able at once to get completely round it, he attacked it several times at intervals of a few days, sometimes with cutting instruments, and sometimes with the actual cautery, and at last succeeded in curing his patient<sup>a</sup>.

Planque mentions a case of sarcoma, the size of two fists, in which the cheek was divided to excise the tumour, and two or three teeth, and a portion of the corresponding bone, were removed with it. The patient recovered.

The scooping operation was likewise put in practice by Desault, Garengéot, Jourdain, and others, and has been in modern times more especially brought under notice by Dupuytren, in

<sup>a</sup> Mémoires de l'Académie Royale de Chirurgie, tom. v. 1819.

1820, and since then by many surgeons. The latter distinguished pathologist even went further, and argued that the greater part of the jaw might be excised; and he was induced to form this opinion from the consideration of the examples on record, where the patient recovered after most severe mechanical injuries of the face, and necrosis, occasioning the destruction of the bone. A most remarkable instance, where the jaw came away almost entire in this latter affection, is mentioned by Camper, and the patient survived. Dupuytren, though he did not remove the entire bone on the date above mentioned, at all events cut out the greater part of it in 1824; yet, too, in the practicability of this operation he was anticipated by Desault and Bidloo, who, however, confined themselves to recommending, without ever having, as it appears, performed it. That Dupuytren did not remove the whole jaw, or, in other words, disarticulate it, is proved by Gensoul, who says:—"I saw the two practitioners, Sanson and Pinel Grandchamp, who were stated to have witnessed these operations, for the purpose of knowing what method had really been adopted. Sanson informed me that he had no knowledge of the fact of an entire removal of the superior maxillary bone, and that he knew only of the operation performed in 1820, which was similar to Desault's, and of one other in the year 1824; and that in the latter case a large piece of the edge of the alveolar process had been removed with a small saw. Pinel Grandchamp said he had witnessed the two operations mentioned by Sanson, but he had never heard say that Dupuytren had ever thought of removing the whole superior maxillary bone"<sup>a</sup>. M. Pillet corroborates this testimony, for he states, the patient last operated on by Dupuytren died at Saltpetrière, and on examination a portion of the jaw was found left behind<sup>b</sup>.

The nearest approach to the removal of the whole superior maxillary bone is detailed in "*White's Cases in Surgery.*" It was operated on successfully by his father, and he relates it in the following manner:—"The patient was a woman, afflicted with a tumour betwixt the zygomatic process and the nose, arising from the lower part of the orbit of the left eye. It pressed the nostrils to one side, so as to stop the passage of the air through them, and thrust the eye out of its orbit, so that it lay on the left temple, yet, though thus distorted, it still performed its office. The tumour occupied the greater part of the left side of the face, extending from the lower part of the up-

<sup>a</sup> Lettre Chirurgicale sur quelques Maladies graves du Sinus Maxillaire et de l'Os Maxillaire Inférieure. Paris, 1853.

<sup>b</sup> Lancette Française, Tom. ii. p. 284.



per jaw to the top of the forehead, and from the farthest part of the left temple to the external canthus of the eye. It had an unusual and equal bony hardness. It was of a dusky livid colour, with varicose veins on the surface, and there was a soft tubercle projecting near the nose, where nature had endeavoured, in vain, to relieve herself." For the removal of the disease, he continues:—"I began with a semicircular incision below the dislocated eye, in order to preserve that organ, and as much as possible of the orbicular muscle; then carrying the incision round the external part of the tumour, I brought it to the bottom of it, and then ascended to the place where I began, taking care not to injure the left wing of the nose. After taking away the external part of the tumour, which was separated in the middle, by an imperfect suppuration, there appeared a large quantity of matter, like rotten cheese, in part covered by a bony substance, which, however, was so carious as to be easily broken through. I scooped away abundance of this matter, with a great many fragments of rotten bones. Upon cleansing the wound from blood and filth with a sponge, I found the left bone of the nose and the zygomatic process carious, and easily removed them with an elevator. There were no remains of the bones composing the orbit of the eye, which were plainly destroyed by the same disease. The optic nerve was denuded as far as the dura mater; and the dura mater and pulsation of the vessels of the brain were apparent to the eye and touch. The left superior maxillary bone, in the sinus of which this disease had its origin, and remained a long time concealed, was surprisingly distended, and in some places became carious; it had exfoliated from the lower part to the sockets of the teeth, which part was, in like manner, removed. I applied the actual cautery to the rest of the bones and putrified parts, taking care not to injure the eye and neighbouring parts which were sound. The patient drew her breath through the wound, and was so incommoded by the fetid matter flowing into her throat, that she was obliged, for several weeks, to lie on her face to prevent suffocation. . . . The patient recovered, the eye returned to its place, and she enjoyed the perfect sight of it"<sup>a</sup>.

There can be no doubt that Mr. Lizars, of Edinburgh, is justly entitled to the credit of having, in 1826, proposed the *entire removal* of the superior maxillary bone, and of explaining the proceedings for its accomplishment. Speaking of "polypi, or sarcomatous tumours, which grow in the antrum," he says: "All the cases which have come within my knowledge (with the

<sup>a</sup> Page 135, *et seq.*

exception of one) wherein these sarcomatous tumours have been removed by laying open the antrum, have either returned or terminated fatally. I am, therefore, decidedly of opinion, that unless we remove the whole diseased surface, which can only be done by taking away the entire superior maxillary bone, we merely tamper with the disease, put our patient to excruciating suffering; and ultimately to death. The inferior maxillary bone has now been nearly entirely removed for osteosarcoma with success, and I see no difficulty in accomplishing the same with one of the superior maxillary. We secure the common carotid artery for other tumours of the face, and for aneurism by anastomosis, and why not do it for so loathsome and fatal a disease as this? The steps or plan of the operation I would suggest for so fatal a disease are,—first, to secure the trunk of the common carotid artery of the affected side; next, to make an incision through the cheek, from the angle of the mouth backwards or inwards, to the masseter muscle, carefully avoiding the parotid duct, then to divide the lining membrane of the mouth, and to separate the soft parts from the bone, upwards to the floor of the orbit; thirdly, to detach the half of the velum palati from the palate bone. Having thus divested the bone to be removed of its soft coverings, the mesial incisive tooth of the affected side is to be removed; then the one superior maxillary bone to be separated from the other, at the mystachial and longitudinal palatine sutures, and also the one palate bone from the other at the same palatine suture, as the latter bone will also require to be removed either by the forceps of Mr. Liston or a saw; thirdly, the nasal process of the superior maxillary bone should be cut across with the forceps; fourthly, its malar process, where it joins the cheek bone; fifthly, the eye, with its muscles and cellular cushion, being carefully held up with a spatula, the floor of the orbit is to be cleared of its soft connexions, and the superior maxillary bone separated from the lachrymal and ethmoid bones with a strong scalpel. The only objects now holding the diseased mass are, the pterygoid processes of the spheroid bone, with the pterygoid muscles. These bony processes will readily yield by depressing or shaking the anterior part of the bone, or they may be divided by the forceps, and the muscles cut with the knife. After the bone with its diseased tumour has been removed, the flap is to be carefully replaced, and the wound in the cheek held together by one or two stitches, adhesive plaster, and bandage. In no other way do I see that this formidable disease can be eradicated”<sup>a</sup>. The

<sup>a</sup> A System of Anatomical Plates, &c. Part xx —The Organs of Sense. 1826.



foregoing operation, which Lizars proposed, he made the attempt to perform in December, 1827, and he thus mentions it:—"I attempted to remove the bone for a medullary sarcomatous tumour of the antrum, from a miner or collier, after securing the common carotid artery of the affected side, but I was prevented by the hemorrhagic disposition of the gum and palate, my patient having lost in a few seconds upwards of two pounds of blood, which welled out at every incision as if there had been an aneurism by anastomosis. The man survived this attempt seventeen months"<sup>a</sup>.

Though Lizars first proposed the operation, M. Gensoul, Surgeon to the Hotel Dieu, at Lyons, was the first to perform it. He removed every part of the superior maxillary bone, together with the whole of the palate bone, from a boy aged 17, on the 26th of May, 1827, for a large fibro-cartilaginous tumour, "occupying the whole left side of the face, and pushing to one side the orifice of the mouth; it extended from above downwards from the floor of the orbit to two lines above the chin, from before backwards, from the nose, which was thrust to the right, to the top of the angle of the inferior maxillary bone." Gensoul states, he was not aware what method Lizars had recommended<sup>b</sup>, but was induced to operate for the following reasons:—For several years previously he had known patients die of very tedious operations, undertaken for the removal of cancerous and other tumours of the antrum. Reflecting on the fate of these unfortunate individuals, he was led to conclude that others, labouring under similar diseases, might be cured by an operation, which consisted in freely denuding the antrum and upper jaw-bone, so as to be able to divide the sound parts, instead of meddling with the diseased ones, and of searching for the precise limits of the disease in the midst of blood and the remains of the affected textures. In short, he was induced to think, that the same principle should be acted upon in this operation, as is followed in others, undertaken for the extirpation of cancerous tumours in general. In this remarkable case, Gensoul did not first tie the carotid artery, as advised by Lizars, but made a vertical cut, from the inner corner of the eye directly down through the upper lip, opposite the left cuspid tooth. From the middle of this cut, or, rather, nearly on a level with the floor of the nose, he made a second, up to four lines from the front of the lobe of the ear, and a third cut, beginning five or six lines to the outside of the orbit down to the

<sup>a</sup> Lancet, 1829-30.

<sup>b</sup> Lettres Chirurgicales sur quelques Maladies graves du Sinus Maxillaire, &c. p. 18.

end of the second and third cuts, and then turned the flap up to the forehead. But, for the purpose of completely exposing the tumour, he was obliged to continue, from the junction of the second and third cuts, another along the inner edge of the masseter muscle, to within an inch of the base of the lower jaw, and this lower flap he turned down. He then commenced with a chisel and mallet, cutting through the outer margin of the orbit, near the suture connecting the malar and frontal bones, into the sphenomaxillary fissure; and next, cut through the zygomatic process of the malar bone. The maxillary bone being thus freed externally, he placed a very broad chisel below the inner angle of the eye, and carried it through the lachrymal bone and the orbital plate of the ethmoid; and in the same way detached the corresponding part of the nasal bone. Cutting away, with a bistoury, all the soft parts connecting the wing of the nose to the upper jaw, he proceeded to separate the two superior maxillary bones, which he effected easily and quickly, having drawn the first left incisive tooth, by introducing a chisel, not directly from before backwards, but by wriggling it through the mouth. Lastly, to detach the maxillary bone from the pterygoid processes of the sphenoid, and to destroy any connexions with the back of the ethmoid still remaining, he thrust the chisel into the tumour, passing it obliquely in the orbit, so as to cut through the superior maxillary nerve, which he was anxious not to drag, and pushing it sufficiently deep to form a lever, so that he could turn the tumour down into the mouth. This answered very well, and he had then only to divide, with curved scissors and bistoury, the attachments of the bone to the soft palate, so as to leave the latter unharmed. The operation was scarcely concluded when the patient fainted, but revived on being laid upon his bed. This patient perfectly recovered.

Lizars, though being disappointed in carrying out his views in 1827, yet was not discomfited, and on August 1st, 1829, he performed his second operation. He first tied the trunk of the temporal and internal maxillary arteries, and also the external jugular vein, which had been divided in the first incision. He cut through the alveolar process and bony palate on the left side of the palatine suture, and completely separated the upper jaw with the saw, Liston's forceps, and strong scissors, but the orbital plate was separated from the eyeball by the handle of a knife. The tumour was medullary sarcomatous, and a portion of it, attached to the pterygoid process of the sphenoid bone, could not be detached, but part of the malar bone involved in the disease was removed. On the sixteenth day the



wound had healed, and she left the house on that day. Three days after, she expired suddenly, but no examination was permitted"<sup>a</sup>. Lizars' third and successful operation was performed on January 10th, 1830, on a woman, the external carotid artery having been first tied. After slitting up the nostril, making a flap of the cheek, and divesting the bone of its coverings where it was to be sawn through, he applied the saw on "the front of the superior maxillary bone, between the nostril and the mouth, or at the side of the mystachial suture; on the palatine plate backwards from this, parallel with the longitudinal palatine suture, to near where the transverse palatine suture exists; across the same palatine plate towards the bulbous process upwards, between the bulbous process and the pterygoid processes of the sphenoid bone, across where it joins the cheek bone; and, lastly, at its nasal process, parallel with the inferior margins of the lachrymal and nasal bones. I then, with strong scissors, cut the connexions of the orbitary process of the palate bone deep into the orbit, to the speno-maxillary fissure, and was lastly able, by notching with the bone forceps at every point where the saw had been, to remove the entire bone, which had its cavity filled with a firm sarcomatous tumour. The patient was able to walk about her room on the eighth day, and went out to take an airing on the thirtieth day; and she left the hospital on the 5th of March following"<sup>b</sup>.

From a dispassionate consideration of the subject, I have no doubt Mr. Lizars is to be regarded as the originator of this operation, the propriety of performing which, in certain cases, is abundantly borne testimony to by the experience of modern times; and in conjunction with his name I would associate that of the illustrious Liston, to whom we are indebted for a discrimination of the cases in which the operation may with propriety be undertaken<sup>c</sup>. Indeed, in this special department of our art, he has, in a marked way, left the impress of both his labour and his genius. To the list of names already mentioned, Lizars, Dupuytren, Gensoul, Liston, and White, we may likewise add those of Syme, Robert, Mott, Velpeau, Lisfranc, Dieffenbach, O'Shaughnessy, Heyfelder, Fergusson, and Cusack, as most closely associated with this bold procedure of modern surgery, and prominently conspicuous in its advocacy, both by precept and by practice. The following case, in which I extirpated the entire of the upper jaw, together with the whole of the palate bone, adds another to the list of those on record which have been successful.

<sup>a</sup> London Medical Gazette, vol. v. p. 92.

<sup>b</sup> Lancet, 1829-30.

<sup>c</sup> On Tumours of the Mouth and Jaws. Medico-Chirurgical Transactions, vol. xx.

Patrick Higgins, aged sixteen years and six months, was admitted into Mercer's Hospital, under my care, March 1, 1853. The patient stated that a polypus had been extracted from his right nostril nine months before admission, but as to the time of its commencement he was entirely ignorant; he could only affirm with confidence, that for three months before the operation the tumour projected into the nose, and interfered with free respiration. He then applied to a surgeon, who removed the growth with the ordinary polypus forceps: during the time of extraction, and afterwards, there was profuse bleeding. The morbid growth had been removed scarcely a month when it again appeared, and manifested a more rapid tendency to increase, which gradually progressed up to the date of his admission. On the closest interrogation, little information could be obtained as to the earlier symptoms that ushered in the local affection. True it is, the patient could remember the presence of a dull, aching pain constantly fixed over the right brow, and of a more acute, severe, and lancinating character beneath the under eyelid. These symptoms, together with the blocking up of the nose, were the inconveniences which urged him to seek for surgical advice, when the operation referred to was put into execution with temporary relief. On the re-growth of the tumour, the patient was brought a considerable distance from the country, and placed under my care. At this time his condition was exactly as follows:—The features were greatly distorted; the right superior maxillary bone being rendered prominent by expansion of its walls, owing to pressure exerted from within; the soft parts comprising the cheek were not discoloured, yet considerably thinned and rendered tense over the projecting part; handling the tumour, and even pressure, did not elicit pain, and there was total absence of all œdema. The symmetry of the eye was lost, the lower lid being raised above the level of that upon the sound side, and the entire organ was somewhat elevated from its bed by the displacement upwards of the floor of the orbit; the lachrymal secretion was profuse, the nasal duct obstructed, and, as a sequence, the tears constantly flowed over the cheek; the nose was expanded and pushed to the left side,—a derangement which will partly account for the eyelid not descending properly; a large, fleshy mass occupied the right nostril, and filled the cavity to its external margin; this anterior part of the tumour was of a dark colour, and coated with a thin crust, yielding in abundance a thin, ichorous discharge; it was soft, elastic, and bled on the slightest touch; and so forcibly was pressure exerted by the



growth of the tumour towards the mesial line, it was sufficient to destroy the bony septum, and block up the left nostril also; the cartilage constituting the anterior part of the partition being spared, doubtless owing to its elasticity, was forced over, and by the bulk of the growth retained in apposition with the left ala, so as to occlude the anterior aperture of the left nasal cavity also; a probe could be made to traverse in an arch over the superior surface of the tumour, but was instantly stopped, both internally and externally,—externally, by the growth protruding from the antrum, and internally or mesially by the irregularity of the surface. By careful manipulation a bent probe could be insinuated beneath the tumour and carried along the floor of the right nostril, and made to appear below the edge of the soft palate. Within the mouth, the tumour could be detected taking a backward direction, pressing down the entire hard palate, and projecting into the pharynx, forcing the velum downwards and forwards, thus placing it almost vertically; in this acquired position the growth could be distinctly felt, and on palpation was obviously elastic; there was no pain occasioned by the handling of it, though the mucous membrane over the entire region was preternaturally coloured, presenting, in many points, patches of ramiform vascularity; the alveolar ridge was perfect, and the teeth were not loosened; respiration and deglutition were considerably interfered with, owing to the obstruction in the nostrils and the projecting mass in the pharynx.

From a very careful inspection and consideration of the case, I at once came to the conclusion that no temporizing measures would avail, because the jaw bone itself was implicated, and the tumour had its root and origin within the antrum, filled the cavity, expanded its osseous walls, and, finally, burst from its confinement, and threatened life by an interruption of functions essential to existence; therefore the removal of the upper jaw in its totality promised the only chance of permanant relief. The patient had been in hospital only a few days when a rapid change in his condition urgently called for operative interference. The tumour suddenly increased with almost incredible rapidity; all its surfaces seemed to participate in the enlargement, but posteriorly the change was most alarmingly felt: the tumour was now plainly visible below the soft palate, and so far interfered with respiration that the sufferer could not lie down without experiencing a sensation of smothering, or obtain any sleep without being almost instantly awakened by a feeling of suffocation and painful gasping for breath. The power of deglutition was likewise

interrupted; fluids could only be swallowed, and that very sparingly, even in sups. My proposal to extirpate the jaw was acquiesced in by my colleagues, Messrs. Tagert, Jameson, and Bevan, and sanctioned by the high authority of Mr. Cusack. The operation was performed in the following manner, March the 5th, 1853:—

The patient being seated on a chair, with his head resting on the breast of an assistant, I passed a strong, curved bistoury, guarded on my finger, into the mouth, thrusting out the point a little external to the junction of the malar and maxillary bones on the right side, and slit the cheek from this point downwards to about a few lines in front of the angle of the mouth; I then, with a scalpel, continued the incision from the point where the bistoury first appeared, a short way upwards and outwards. The knife was next applied half an inch below the inner canthus of the eye, over the nasal process of the maxilla, and carried down at the side of the nose, round the ala, and then straight through the upper lip. The flap thus formed was rapidly dissected up from its attachments and held by an assistant, the orbital edge of the maxilla was cleared from the soft parts, and the attachment of the inferior oblique muscle accomplished; thus it, together with the nasal process and the anterior part of the malar bone, lay fully exposed. At this stage, the flow of blood was so profuse it was considered advisable to secure the facial artery at the point where it was divided in the outer incision, and likewise the transverse facial on the same side: the facial artery on the left side was commanded by pressure, where it passes round the jaw in front of the masseter muscle. The cartilage of the ala was next detached from the bone, and the nose drawn over to the left side. The division of the osseous structure was next accomplished, by means of a powerful scissors: the malar bone, at its junction with the maxilla, was first cut through; then the nasal process of the maxilla divided; next, the first incisor tooth being drawn, one blade of the scissors was passed into the nostril on the affected side, the other into the mouth, and the palate plate severed, through its entire extent, from its fellow of the opposite side; the incision passed in a straight line from the gap occasioned by the extraction of the tooth to the posterior edge of the palate plate of the palate bone, where the tumour lay in contact with it. I then, with a strong, curved scissors, cut across the orbital plate, from the orbital margin of the maxillary bone, leaving a small portion of the floor of the orbit perfect, and by a careful stroke of the knife detached the ve-



lum pendulum from the palate bone. The maxilla was next grasped with a strong forceps, and forcibly pressed, so as to break down its connexions behind, and make the tumour start from its bed: thus the entire mass was depressed, and drawn forwards by the aid of the forceps held in the left hand, while, with the index finger of the right passed in above the tumour, extensive adhesions were torn through; and, by a few additional touches of the knife, the entire mass was liberated from its attachments and taken away. The mouth was next sponged out, and very carefully examined: not a portion of the tumour remained behind. The hemorrhage after was very inconsiderable, and yielded to the pressure exerted by small pieces of dry sponge thrust against the surface, each being guarded with lint and a string; the former to prevent the granulations shooting into its structure, and the latter to facilitate removal. Additional pieces of lint were introduced, so as to fill the cavity, and prevent the cheek sinking too much in. The patient was then placed in a recumbent position; nevertheless, syncope supervened, in consequence of the shock, and loss of blood necessarily resulting from so formidable an operation. However, by the application of ammonia to the nose, the admission of fresh air, and the administration of wine, this faintness passed away, and the heart and brain resumed their functions. After this pause I proceeded to dress the wounds, by most carefully adjusting the cut surfaces, and retaining them in apposition by several points of the twisted and interrupted suture: thus was the dressing completed,—neither pledgets, plasters, nor bandages being had recourse to. Immediately afterwards, the patient was removed into a private ward, put to bed, and a warm anodyne administered.

3 P. M.—The patient had sound sleep since morning,—the fatigue, anxiety, and restlessness which he endured for two nights before the operation will partly account for the occurrence,—and he took, with appetite, a quantity of boiled milk, and eggs beaten up in it, for nourishment.

March 6th.—Sleep was procured at intervals during the night. He suffers but little pain. Pulse quiet and compressible; skin soft; urine passed in considerable quantity; face but little swollen, and neither uneasiness nor tension in the site of the sutures. The patient was made to lie upon his left side, so that the profuse salivation might escape without interrupting the adhesion of the cut parts. Boiled milk and eggs to be liberally supplied, and also a pint of strong beef-tea.

2 P. M.—Pulse quickened; general restlessness; skin hot;

symptoms evidently ushering in irritation. Ordered small doses of a sedative mixture, containing camphor julep, morphia, and prussic acid.

9 P. M.—Pulse lowered considerably, and quiet; refreshing sleep has been obtained for a short time. Ordered to continue the mixture at longer intervals, and to be allowed warm milk for drink through the night.

March 7th.—Slept almost uninterruptedly for the entire night. Pulse 90, and soft; skin cool. The wounds in the cheek seem united; there is but little swelling in their course, and the sutures are quite unproductive of irritation. The eye is perfectly on a level with the sound one, and the lid has resumed its proper position. There is slight fetor of the breath, occasioned by the presence of the plugs at the back of the pharynx (there now for forty-eight hours), which called for their removal; this was easily effected by the injection of a little tepid water and gentle traction.

9 P. M.—Free from pain, and inclined to sleep.

March 8th.—The patient slept composedly during the early part of the night, and at intervals towards morning. Pulse quiet. Complains of a slight headach; face a good deal swollen, but no undue traction on the sutures; bowels confined. Ordered immediately a full emollient enema. I carefully sponged out the pharynx and mouth with a wash, containing chloride of soda. Eggs, beef-tea, &c., for nourishment. Salivation still very profuse.

9 P. M.—Patient slept nearly the entire day, and is free from pain.

March 9th.—The young man feels much refreshed after the night, and is most anxious for solid food; he can speak sufficiently distinct to be understood and make known his wants. His request I did not think it prudent to comply with, lest any portion of the solid matter might become entangled in the irregular surface behind, and so bring on a fit of coughing, and thus tear asunder the recently united parts. The wounds of the face are all united by the first intention, nevertheless, the sutures being unproductive of irritation were suffered to remain. Eggs, milk, beef-tea, &c., for nourishment, as before.

March 10th.—Removed all the sutures, and supported the parts with broad strips of adhesive plaster. The surface of the chasm left after the removal of the bone granulating healthily.

March 15th.—The patient was allowed to take solid food for the first time this day. The incisions in the cheek are not only united, but quite pale and nearly obliterated, and the



surface on the interior is rapidly healing. On this day he was permitted to get up.

March 18th.—There has been a rapid amendment in the young man's condition: his speech and power of deglutition are greatly improved, and the salivation is considerably diminished. Brushed over the interior of the mouth and granulating surface with a solution of nitrate of silver, ten grains to the ounce.

It is unnecessary to follow up the daily report of the case any further; suffice it to say, that in a short time the parts were entirely healed, and he was dismissed perfectly cured.

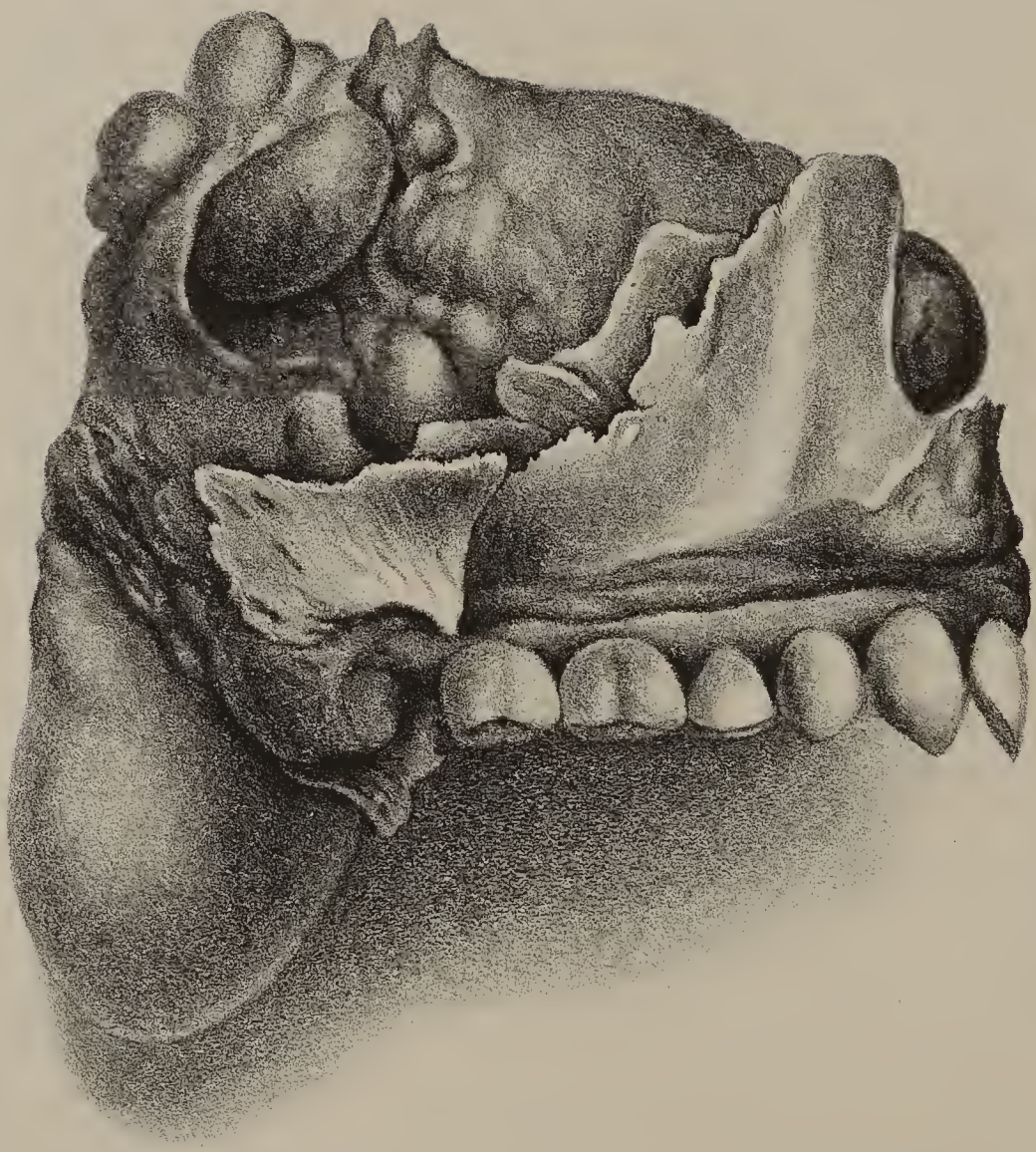
At the time in which I write (May the 24th) the patient is in excellent health. Very little deformity marks the severe operation which had been performed: the gap left by the removal of the maxilla has contracted remarkably in size; the power of swallowing fluids and solids is naturally restored; and his speech and articulation are sufficiently distinct for a person in his humble position in life.

I regret not being able to present the reader with a drawing of the patient before the operation. The case so unexpectedly demanded immediate interference, time was not permitted for its execution, but the accompanying lithographs (Plates 1 and 2) exhibit a full-sized representation of the parts removed. Plate 3 is taken from a portrait which was drawn six weeks after the operation, attesting to the fact of the little amount of deformity consequent upon it.

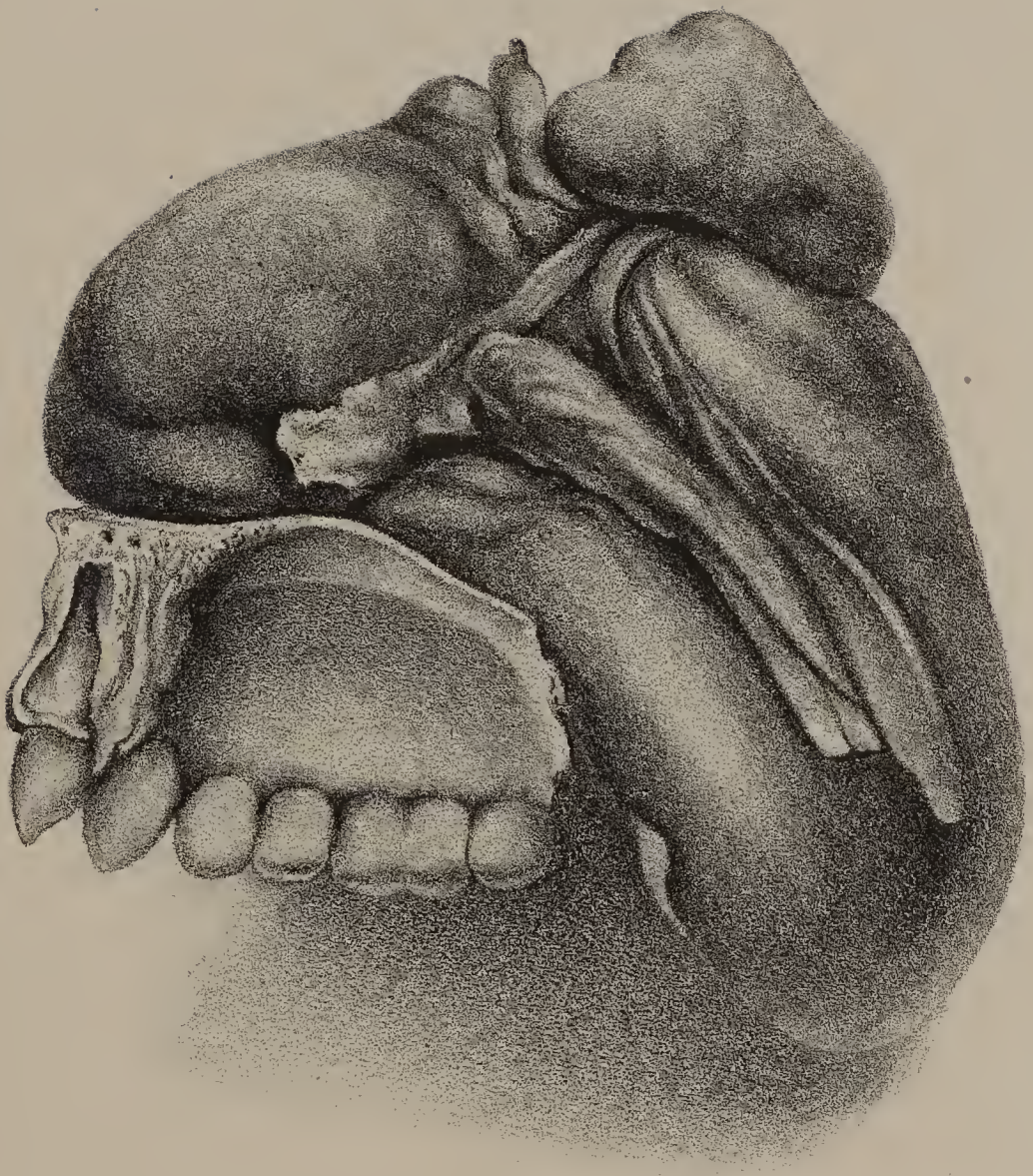
*Examination of the part after removal.*—The structure of the tumour presented many interesting peculiarities. Its attachment and origin sprung from the outer part of the antrum. Not only was it incorporated with the lining membrane, but it likewise implicated the osseous wall. The surface from which it sprung, in the recent state, was softened, vascular, and pulpy; the upper surface of the tumour was lobulated where it encroached upon the orbit and elevated its floor; the lobules were of various sizes—some very small, but each consistent in structure, and invested by a dense capsule in a similar way to the larger masses of the growth. The entire tumour was remarkable for its great vascularity, which was more particularly confined to the posterior and upper surface; while on section the structure was dense by comparison, pale, eminently firm, and partaking of a fibrous, matted nature. This integral arrangement was very manifest under close examination with the microscope, and cleared away the suspicion which, on superficial inspection, might have been created of encephaloid disease being the synonyme most applicable to the growth.





















There was a total absence of all nucleated cells, either globular, caudate, or spindle-shaped; and above all, the section of any part only yielded a minute quantity of serum or blood on pressure, and not the true succus of cancerous tissue. The tumour, though destructive to the neighbouring parts by pressure, yet did not appropriate or incorporate them in its structure. This peculiarity of non-malignant growths was strikingly manifest in the present instance; for, by pressure, producing interstitial absorption, the cancellated structure of the ethmoid and inferior spongy bones was attenuated and removed; and by the same process the vomer was detached from its position—a few shreds of it being spared and hanging loosely on the sinistral surface of the tumour. The vascularity of the growth, though remarkable on the surface, yet did not permeate its texture; hence a tendency to degenerate by assumed depravity of action was lessened. Again, the vascularity of the surface will readily account for the repeated and profuse losses of blood,—a point of great practical value, because placing the surgeon on his guard as to the importance which should be attached to those repeated losses in constituting a diagnostic feature confirmatory of malignant disease<sup>a</sup>.

In addition to the modes of removing the jaw already specified, I shall mention a few others, practically put into execution by the distinguished names attached to them. Heyfelder performed resection of *both* jaws in the following way:—He made two cuts from the outer angles of the eyes into the corners of the mouth, then separated all the soft parts from the swelling to the inner corners of the eyes and to the nose bones. He next raised this four-cornered flap upon the forehead, carried Jeffray's chain-saw through the upper fissure of the left orbit, and divided the connexion of the left upper jaw bone and cheek bone. In like manner, he proceeded with the division of this bone from its connexion with the frontal, lachrymal, ethmoid, and nasal bones. In the same way, the right upper jaw bone was separated from its connexions, and afterwards the vomer, and the still remaining connexions were cut through with strong scissors. A lever-like pressure was made on the upper part of the tumour to complete the operation. Torsion and compression staunched the bleeding, and twenty-six sutures united the wound<sup>b</sup>. It is likewise stated by M. Velpeau that Mr. Rogers, of New York, removed both upper jaw bones as far back as the pterygoid processes.

<sup>a</sup> The original drawings by Mr. Connolly, and the part removed, are preserved in my collection.

<sup>b</sup> Chelius, by South, vol. ii. p. 990.



Syme's directions for performing removal of the upper jaw bone are very simple, and will not be found less convenient than any other. He says:—"Two incisions should be made through the cheek,—one extending from the inner angle of the eye, directly downwards to the lip; the other beginning over the junction of the maxillary and malar bones, and terminating at the angle of the mouth. The triangular flap thus formed is to be dissected from the tumour, and the margin of the orbit exposed"<sup>a</sup>. He then directs that "one blade of a large cutting pliers be introduced into the nose, and the other into the orbit, so as to divide the nasal process of the superior maxillary bone. The connexion with the malar bone is next separated in the same way, and then the palate, previous to which one of the incisor teeth must be extracted if necessary. The surgeon having now deprived the bone of all its principal attachments, wrenches it out, either with his hands or strong forceps." Professor Syme afterwards abandoned this method by the two incisions for a single curvilinear incision from the angle of the mouth to the malar bone<sup>b</sup>.

Liston performs this operation in the following manner:—"The extent of the disease is to be accurately ascertained, and the points in which the bones require to be separated decided upon. If the os malæ be involved, and it is necessary to remove it, as well as the superior maxilla, a pair of straight tooth forceps, a full-sized bistoury, copper spatulæ, powerful scissors, artery forceps, and needles for interrupted and twisted suture, will be sufficient. If the superior maxilla only, with, perhaps, some of the smaller bones, is to be removed, then the addition to the apparatus of a small saw will be necessary, for the purpose of more readily effecting the separation of the os malæ from its anterior attachment. The proceeding is not to be dreaded on account of its extent; indeed, removal of the superior maxilla alone is the more troublesome. Supposing that the more extensive extirpation is required, incisions must be made so as to expose freely the tumour and bones where it is proposed to cut them. First of all, one of the central incisors must be extracted, either the one on the affected side or the other, according to the extent of the tumour. I have been obliged to remove a considerable portion of the jaw opposite to that principally affected, and in that case one of the molars was removed, in order to admit of the division of the bones. The point of the bistoury is entered over the external

<sup>a</sup> Principles of Surgery, Third Edition, p. 487.

<sup>b</sup> Cormack's Monthly Journal, February, 1843.

angular process of the frontal bone, is carried down through the cheek to the corner of the mouth, and is guided by the fore and middle fingers of the one or other hand, as may be, placed in the cavity. A second incision, made along and down to the zygoma, falls into the other; then the knife is pushed through the integument to the nasal process of the maxilla, the cartilage of the ala is detached from the bone, and the lip is cut through in the mesial line. The flap thus formed is quickly dissected up and held by an assistant; the attachment of the soft parts to the floor of the orbit, the inferior oblique muscle, infra-orbital nerve, &c., are cut, and the contents of the cavity supported and protected by a bent copper spatula. The division of the bones is now undertaken; with the cutting forceps, the zygomatic arch, the junction of the os malæ and frontal bone by the transverse facial suture, and the nasal process of the superior maxilla, are cut in succession; then a notch having been cut out of the alveolar process, the palatine arch is clipped through by strong scissors, placed along it, one blade in the nostril of the affected side, the other in the mouth. Then it is that an assistant will be prepared to place his fingers on the trunk of one or both carotids. The tumour is now shaken from its bed, and as it is turned down, the remaining attachments are divided by the knife; the velum palati is carefully preserved, and also, if possible, the palatine plate of the palate bone;" or, as he states, the flap may be formed in the following way with less extensive cuts:—"The incisions were commenced at the inner canthus of the eye, carried by the side of and close to the ala of the nose, along the margin of the nostril, and then through the upper lip exactly in the middle line. Another incision was made from the commencement of the first, in a curved form, along the lower margin of the orbit, and of course in the direction of the fibres of the orbicularis palpebrarum. The flap thus formed was by dissection turned outwards, and held by an assistant until the processes were cut"<sup>a</sup>.

Mr. Fergusson's directions for making the skin flap are, "that an incision should be made from the margin of the upper lip towards the nostril, and then from the ala, as high as within half an inch of the inner canthus of the eyelids; next the cheek should be laid open from the angle of the mouth (or near it), as far as the zygomatic process of the malar bone, and if necessary, an incision at right angles with this one should extend from the external angular process of the frontal

<sup>a</sup> Liston's Practical Surgery, p. 311, *et seq.*



bone, towards the neck of the lower jaw; now the flap between the nose and the wound in the cheek should be dissected from off the tumour, and turned upwards on the brow; then that portion of the cheek below and behind the wound should be turned downwards, and the mucous membrane divided, so as to expose freely the interior of the mouth"<sup>a</sup>. O'Shaughnessy, in his excellent Essay on Operations on the Jaws, has given the following interesting account of the removal of the upper jaw of a Hindu, of twenty-one years of age, which he performed in Nov., 1837:—An enormous growth completely occupied the left side of the face, rising to a level with the floor of the orbit, and extending a long way below the inferior maxilla, but unattached to it; occupying the whole of the anterior and left side of the mouth, and protruding between the lips, pressing down the lower jaw, so as almost to make the chin touch the throat, and flattening the nose, so as to leave but little trace of the prominence of that organ. Still there was no difficulty of swallowing, and the patient seemed to breathe without inconvenience through the right nares. That portion of the tumour which protruded through the mouth was of a bright red colour, and covered with mucous membrane, having at its upper part the canine and two incisors of its own side, with the central incisor of the opposite maxilla sticking out of it. The dimensions of this mass were as follows:—From the part near the ear to the most prominent part which protruded from the mouth, exactly twelve inches; and from that part which bulged below the inferior maxilla to the edge of the orbit, about ten inches. It looked, as near as may be, equal in size to the patient's head.

The principal source of pain to the patient appeared to be from distention and pressure on the surrounding parts. Notwithstanding its large size, the tumour seems to have been removed without much difficulty, the zygoma having been first cut through, and afterwards the malar bone, into the sphenomaxillary fissure, with Liston's bone-nippers. The orbital process of the superior maxillary bone and the nerve were next cut through with a strong knife, and afterwards the nasal process of the bone. The second incisive tooth on the opposite side having been drawn, the extent of the disease requiring it, the alveolar process and hard palate, as far back as the palatal process of the palate bone, were then cut through with the bone-nippers, and now all the strong attachments of the tumour being completely severed, he had no difficulty in removing

<sup>a</sup> Practical Surgery, p. 548.

that mass, carefully separating with the knife the palatal process of the superior maxilla from the palatal process of the palate bone, so as to preserve the soft palate from injury. The patient completely recovered<sup>a</sup>. M. Velpeau prefers an incision commencing at the commissure of the lips, and carried outwards and then upwards towards the temporal fossa. This incision may answer for a partial removal of the jaw, but will not expose the bone sufficiently for the section of its nasal process, for which purpose the somewhat vertical cut from the inner canthus down to the upper lip is very necessary. Dieffenbach has left the cheek alone, so as to preserve the branches of the portio dura, being content with an external incision through the upper lip, and along the back or prominent part of the nose, up towards the inner canthus, from whence he has carried the knife horizontally along the lower eyelid to the upper and outer part of the malar bone.

The practical point deducible from the opinions and experience of these eminent surgeons is, that it is by no means necessary to adhere to any particular line of incisions; a knowledge of anatomy, and the shape of the tumour, in short, the attendant circumstances of the case will modify them, and determine their course and extent.

In conclusion, there are a few points to which I wish specially to direct attention; and first, with reference to tying the carotid artery, as insisted on and put into practice by Lizars, in his operations on the jaw. Experience has proved that this proceeding is altogether unnecessary. The bleeding will be but trifling after once the flaps are formed, if the surgeon is not rash in the use of the knife; when detaching the tumour and bone from its posterior connexions, the edge of the instrument should be kept close to the osseous tissue, and then the internal maxillary artery will not be endangered. All soft attachments should, if possible, be torn down with the finger, and the very depression and gentle wrenching of the mass from its bed with the forceps, will tend to lacerate the vessels entering from behind, and still further avert bleeding. It is an important object to prevent, as much as possible, the blood flowing towards the throat in the early part of the operation, hence the advantage of the sitting posture, and of beginning with the division of the cheek bone, before the nasal process of the upper jaw bone itself is attacked, as illustrated in my case.

<sup>a</sup> On Diseases of the Jaws, with a brief Outline of their Surgical Anatomy, and a Description of the Operations for their Extirpation and Amputation. Calcutta, 1844.



In operations performed for the removal of either a portion or the whole of the superior maxillary bone, I do not conceive we can avail ourselves of the use of chloroform. I agree with Mr. Stanley, that there is a serious objection to its administration; for inasmuch as by its influence in annihilating sensibility, the irritability of the glottis is weakened, if not wholly lost, so there must be danger of a trickling of blood from the mouth into the glottis, without the excitement of a cough to expel it from the windpipe. The amount of this danger may be considered small, but it is sufficient to know that the apprehended evil has once occurred. Severe as the pain of these operations may be, it had better be endured than the risk of suffocation incurred, which must be regarded as a possible occurrence from the filling of the pulmonary air-tubes and cells with blood. As to the division of the bone, cases will seldom occur where the chisel and mallet will be required; they cause great jarring, and, if possible, should not be used. So likewise may saws be dispensed with, for well-formed cutting pliers and powerful scissors, if the operator possesses the required strength to use them; and by the adoption of the latter, the section can be completed with such comparative rapidity that the sufferings of the patient are greatly diminished, and the shock abridged, while, at the same time be it remembered, if the instrument is steadily handled, the bone may be as evenly divided as by any other means, or, practically speaking, sufficiently so to permit healthy repair of the cut edges, a fact very remarkably exemplified in the case of the young man I operated on.

ART. III.—*Cases of Disease of the Liver, with Observations.*

By CATHCART LEES, M.B., Physician to the Meath Hospital, and Examiner in Medicine to the Queen's University in Ireland.

CASE I.—*Scrofulous Liver and Ascites*<sup>a</sup>.

PATRICK WALSH, aged 15, labourer, was admitted into the Meath Hospital in March, 1853; he was remarkably pallid and greatly emaciated, suffering from severe diarrhœa and distention of the abdomen, partly from fluid in the cavity of the peritoneum, and partly from a large smooth tumour occupying the right hypochondriac and epigastric regions, evidently caused by great enlargement of the liver: the veins over the

<sup>a</sup> Reported by Mr. Ulysses Fitzmaurice.

surface of the abdomen were somewhat dilated. The urine was natural in quantity, of the ordinary healthy appearance, with a slight cloudy sediment, acid, specific gravity 1.010, highly albuminous to heat and nitric acid. He also suffered under constant hoarseness and cough, with muco-purulent expectoration; the pulse ranged from 112 to 120. Examination with the stethoscope gave evidence of extensive tubercular disease of both lungs, but no signs of cardiac disease. He stated that he was healthy until two years since, when he was attacked with cough, which was followed by copious expectoration and night perspirations; he neglected these symptoms, and twelve months ago he was seized with profuse hemoptysis, since which time he has had frequent slight returns of it. Diarrhoea commenced two months ago; ascites set in about five weeks after, and has gradually increased up to the present. There was occasionally œdema of the ankles previous to the occurrence of ascites, but there is none at present; there is no appearance of jaundice, nor is there any tenderness or pain complained of in any part of the abdomen, or over the liver; the evacuations are very fluid, and deeply tinged with bile<sup>a</sup>. This poor boy was evidently suffering under extensive tubercular disease of the lungs, great enlargement of the liver, and degeneration of the kidneys, indicated not merely by the albuminous condition of the urine, but chiefly by the microscopical examination, which exhibited casts of the uriniferous tubes, but no oil-globules could be detected. He gradually sank, and died a few days after admission. There was no œdema of the extremities nor of the face during his stay in hospital.

On examination, tubercles, in various stages, with cavities, were found in both lungs; the liver was greatly enlarged, both laterally and also in depth; the peritoneal coat very smooth, with a degree of doughy consistency on pressure of the substance of the organ, combined with a certain amount of hardness and elasticity; the edges were much thickened and rounded. On making a section, it appeared smooth and homogeneous, of a glistening, semi-transparent, waxy, reddish colour, resembling a piece of raw ham; the fluid that exuded from it was a pale bloody serum, evidently very deficient in blood cor-

<sup>a</sup> I allude particularly to this because the late Dr. Graves, in his valuable work on Clinical Medicine, has remarked, that in persons with scrofulous disease of the liver, the appearance of the evacuations is very peculiar. "You will find one part bilious, another part clay-coloured; they will be yellow to-day and pale the next, according as the liver secretes bile or suspends its functions." He infers from this that in certain forms of hepatic disease, the functions of the liver are performed, as it were, intermittingly,—it secretes bile during a certain period of the digestive process, then stops, and then secretes again.



puscles; the gall-bladder was much contracted, containing a small quantity of bright yellow bile. A considerable quantity of clear serum was in the peritoneal cavity; the spleen was small and apparently healthy. Mr. Thomas Ledwich made a careful examination of the structure of the liver under the microscope, and reported the result to be:—1st. Amorphous structureless matter in the interlobular spaces, probably albumen, rendering the interlobular plexuses obscure, and no doubt compressing them; 2nd. Numbers of highly refracting points in biliary cells, indicating the presence of fat; 3rd. Free fat cells in the expressed succus of the hepatic section. Mr. Sullivan, Chemist to the Museum of Irish Industry, made a chemical analysis, and stated the result to be as follows:—

Solid matter, . . . . .	19·518 per cent.
Fatty matter in fresh liver, .	0·765 „
Fatty matter in dried liver, .	3·922, nearly 4 per cent.

The kidneys were of a natural size, but presented a varicose condition of the vessels on their surface; they were indurated, and their cortical substance was infiltrated with a glassy, albuminous substance, resembling that seen in the liver. Mr. Ledwich states the result of the microscopical examination to be:—

“Tubules, containing crystals of ammoniaco-magnesian phosphate, granular matter, fat in abortive epithelial cells, and bodies resembling pus corpuscles; Malpighian tufts; enlarged and formative vessels, increased in size with varicose disposition: the succus of the section likewise showed the presence of fatty matter.”

Mr. Sullivan gives as the results of his chemical analysis of the kidneys:—

Solid matter, . . . . .	16·580 per cent.
Fatty matter, per cent., in fresh kidney,	0·952
Do. in dried kidney,	5·742

An analysis of the urine, sp. gr. 1·008, gave the following results:—

In 1000 parts, of solid matter, 27·54

Water, . . . . .	972·46
Albumen, . . . . .	10·01
Urea, . . . . .	3·20
Salts, &c. . . . .	14·33

The albumen formed 36·371 per cent. of the solid matter.

This case presents many points of interest, particularly

with regard to the condition of the liver. Its anatomical characters resembled the form described by Rokitansky, as "lardaceous (speckig baconny) liver," the morbid appearances of which "are owing to infiltration of the hepatic parenchyma, by a coarse gray, sometimes transparent, albuminous, lardaceous, or lardaceo-gelatinous substance;" and this description is followed by Dr. Budd, who, in his work on "Diseases of the Liver," adopts the term "scrofulous" (originally employed by the late Dr. Graves), and says—"The foreign matter, to which the liver owes its large size, is *albuminous*." Now, I consider that both he and Rokitansky are wrong in denominating this deposit 'albumen;' for as (in the present state of science) we only recognise albumen under two forms, either fluid, like white of egg, or coagulated, and as this deposit in the scrofulous liver resembles neither of these forms,—it either cannot be albumen, or it must be some modification of it, perhaps that principle termed by Müller and Mialhe, 'albuminose,' a substance analogous to albumen, but of a peculiar kind, not coagulating by heat, but coagulating by the mineral acids<sup>a</sup>, and which, according to M. Claude Bernard, who has recently distinguished himself so much by his researches on the physiology and pathology of the liver, is formed by the fibrine of the food being dissolved by the gastric juice, thus changing it into this 'albuminose,' which he believes to be always found in the portal system, causing the blood to coagulate badly, owing to the deficiency of fibrine. Now if the liver performs its functions properly, the blood leaving it by the hepatic veins ought to contain plenty of fibrine, so that we must suppose this albuminose is transferred into fibrinous material, and thus healthy blood is formed. But if this change do not take place, it will result, that the albumen, being in excess in the blood, will pass off by the urine (as occurred in this case); and then the blood, being deprived of its fibrine, cannot circulate as usual in the capillary vessels, but transudes through their walls, causing œdema of the areolar tissue, and effusion of serum into the cavities of the abdomen and chest. This may also account for the insidious nature of the disease, as, owing to the gradual manner in which this deposit takes place, there is no pain nor tenderness experienced in the region of the liver, as there is no inflammation of the substance or of its capsule, even though it be stretched, as occurs also in fatty degeneration of this organ, when the hepatic cells become distended with oil, and when the liver

<sup>a</sup> This was the case with this deposit, according to Mr. Sullivan.



becomes greatly enlarged, in this respect resembling the scrofulous liver, but differing from it in not being accompanied by ascites. Dr. Budd accounts for this difference by the "albuminous deposit in the scrofulous liver being firmer and less yielding than the oil-globules in the fatty liver;" but Mr. Thomas Ledwich has suggested an additional explanation, founded on the microscopical examination of the part, showing that in the scrofulous liver the deposit takes place in the lobules, and not in the cells, and is thus much more likely to compress the vessels, interfere with the circulation in the liver, and thus cause ascites, than fat or oil, which is usually found in the hepatic cells in that condition termed fatty liver. In most cases of scrofulous liver we also find (as in the present) the urine albuminous, the cortical structure of the kidneys infiltrated with a deposit similar to what is in the liver, though generally of more recent date, as dropsy of the face or extremities seldom occurs until an advanced period of the case, when disease of the kidney is induced by the blood becoming charged with impurities, which, being no longer capable of retention in the liver, or cast off through it, are thrown upon the kidneys; these organs endeavour to eliminate them along with the ordinary principles of the urine, and disease of their secreting tubes is the result. In this case the pallid hue of the patient was very remarkable, as also the peculiar watery appearance of the blood in the liver, and tends to confirm Dr. Budd's observation, that in these cases "there is generally a state of anæmia, partly owing to the drain of albumen from this condition of the kidney, but also caused by the disease of the liver itself lessening the amount of those changes which the blood naturally undergoes in its passage through the liver, and which, doubtless, contribute in some way or other to the reproduction of its coloured corpuscles."

CASE II.—*Medullary Cancer of the Liver undergoing the Suppurative Process.*

Thomas Code, aged 42, of temperate habits, a blacksmith, was admitted into the Meath Hospital, under my care, for a tumour in the abdomen. He stated that he had always enjoyed good health until about twelve weeks ago, when he began to lose his appetite, and had frequent sensation of nausea, but no vomiting; he had profuse perspirations occurring every evening, which have continued to the present time. Six weeks ago he had a fit of shivering, followed by perspiration, which has recurred every evening since, and he then felt a small

swelling in the right hypochondriac region, just below the false ribs, and very tender on pressure; this has been gradually increasing, and there is now an ill-defined, uncircumscribed tumour, about the size of a large orange, extending from the epigastrium for about four inches towards the right hypochondric region; it pulsates strongly when he lies on his left side or on his back, and moves up and down with each act of respiration; he says it feels as if it were alive, and there is slight œdema of the integuments over that part. He is greatly emaciated, of a very pallid, unhealthy cast of countenance; can lie on either side; has no cough nor pain in the shoulder; bowels costive, tongue coated with a moist creamy fur, the papillæ very prominent at its base; urine very high colour, with a copious, pink, lateritious sediment, clearing by heat. He was constantly drenched in perspiration of a nauseating smell; there was not any jaundice, but his skin was very pale, and of a dirty waxy appearance; pulse ranged from 80 to 90, soft and rather feeble; he complains of feeling much pain in the tumour after being handled; another tumour appeared in a few days close to the first, and fluid could now be detected in the peritoneum; he got severe diarrhœa, and passed very dark, fetid evacuations; he became very feeble, pulse quickened, hiccup set in, and he sank quietly, having vomited for the first time only on the day preceding his death. Examination of the body showed the liver to be greatly enlarged, occupying the right hypochondric and epigastric regions; a soft fluctuating tumour, the size of half an orange, occupied the centre of the gastro-hepatic omentum, and joined the anterior edge of the liver; an incision into this tumour gave issue to a large quantity of purulent matter, of a pale green colour, mixed with thick flocculent shreds of lymph; this extended deep into the substance of the liver, and was bounded by broken up fungoid detritus; the anterior surface of the liver over this diseased structure was natural in appearance; there were, however, three small but well-characterized encephaloid tumours on the upper surface of the right lobe. The stomach was attacked externally by the contiguity of the cancerous mass, but the interior was healthy; no other organs were diseased. There was no attempt at adhesion between the surface of the tumour and the parietal peritoneum, nor any evidence of peritonitis.

This case, which I consider to be one of medullary cancer of the liver in a stage of suppuration, is worth recording,—first, from its great rarity, as I am not aware of any similar one; and secondly, from the difficulty of diagnosis it presented. We know that scirrhus tumours may be gradually transformed into



a soft, brain-like, pulpy mass, or that encephaloid disease may assume the cerebriform character from the commencement; but though Dr. Carswell, in his *Pathological Anatomy*, enumerates, all the changes which take place in both species of carcinomas viz., congestion, hemorrhage, softening, and sloughing, he does not allude even to the possible occurrence of suppuration; and Rokitansky merely alludes to it in these terms: "Medullary cancer rarely passes into suppuration, as it generally terminates fatally by inducing universal cachexia and exhaustion."

The diagnosis of this case presented some difficulty at the first, as, from the frequent occurrence of rigors, the profuse, sour perspirations in which he was always drenched, the soft, quick pulse, but above all, the tumour in the region of the liver, with an œdematous state of the integuments over it, made me at first suspect that I had to deal with an abscess of the liver, and it was not until after the appearance of the second tumour, the occurrence of ascites, and a careful examination made by Sir Philip Crampton and Dr. Stokes, that it was decided to be a case of malignant disease. With reference to the occurrence of perspirations in cancer as a sign of the softening process having commenced, I think it is a point worthy of careful investigation, as I am not aware of its having been particularly alluded to by systematic writers. Dr. Budd, in his work, states in general terms that "in advanced stages of the disease, i. e. cancer of the liver, there is often, as in cancer of other parts, profuse sweating;" but he does not appear to connect it with the process of softening which I suspect to be the case, as in many instances of extensive and advanced cancerous disease of the liver which have passed under my notice, both in the Meath Hospital and in the South Union Workhouse, I have made particular inquiry as to this symptom, and I do not think it is present until the disease has proceeded to softening.

The mobility of the tumour accompanying each act of respiration was very evident in this case, and afforded a sure indication that no adhesion had formed between it and the parietal surface of the peritoneum, a point of great importance to ascertain, as at first, when the tumour was supposed to be an abscess, and the propriety of opening it was discussed, the idea of operating was negatived from the presence of this sign, as indicative of the want of adhesions between the liver and the abdominal parietes, and the consequent probability that any attempt to open the abscess would have been attended with fatal results from the effusion of the contents into the cavity of the peritoneum, so that it involves a very important point

in practice, though often a difficult one to decide positively, whether adhesion has taken place between an abscess of the liver and the abdominal parietes or not. Dr. Budd says<sup>a</sup>: "This may sometimes be done, when the liver is large, and the abdominal parietes are thin, by feeling the edge of the liver, or some prominent part of its surface, and marking the place of this with a pen on the surface of the belly. If the liver be adherent to the abdominal parietes, the line or spot so marked will correspond to the edge or prominence of the liver in all positions of the body; if it be not adherent, when the patient draws a deep breath, or changes his posture, the liver will slide along the wall of the belly, and the line or spot will no longer correspond to the edge or prominence in question; but when there is a circumscribed œdema, or a slight blush on the skin, over the abscess, we may be sure, not only that the liver is adherent, but also that the abscess is making its way to the surface"<sup>b</sup>.

The complete absence of jaundice in both of these cases is worthy of remark, but may be accounted for, first, by there being no mechanical obstruction to the free discharge of bile from the liver into the intestines; and secondly, from there not being any general disorganization of the secreting portions of the liver; for although the interstitial deposit was very general in the case of scrofulous liver, yet as it took place in the lobules, and not within the secreting cells, it did not interfere with their functions. The absence of this symptom may also tend to support the opinion of those physiologists who maintain that the colouring principle of the bile is chiefly formed in the liver itself, as a result of the changes which there take place in the blood.

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#### ART. IV.—*On the Cure of Urinary Fistulæ by Compression.*

By JOHN HAMILTON, Surgeon to the Richmond Hospital,  
Examiner in Surgery to the Queen's University in Ireland.

SOME years ago I had an opportunity of examining the parts in a young man who had urinary fistula for several years, and who died of typhus fever. There was a fistulous opening near

<sup>a</sup> Second Edition, p. 115.

<sup>b</sup> Dr. H. Kennedy, in a paper published in this Journal, in November, 1851, has mentioned a case of malignant disease of the stomach, "in which the tumour caused by it moved an inch and a half at every inspiration, and this sign established the diagnosis as to whether the tumour was an aneurism or not, for it had a very strong pulsation."



the anus, that I traced up to the urethra, which it did not enter, being separated from it by a thin membrane, near the caput gallinaginis. On the other hand, I found a round opening near the same part of the urethra, that is, by the side of the caput gallinaginis, which admitted a probe for an inch and a half, the obstruction to its further progress being a membranous septum that divided it from the other fistulous tract, with which I have little doubt it once communicated. The linear eminence of the caput was prolonged over the urethral opening, projecting quite above it, so as to form a valve preventing the entrance of urine from behind. The main fistula was not a mere passage, but opened out into an enlarged space, from which several short blind passages ran. A striking peculiarity of all the fistulæ was the extreme obliquity of their course, not running from the perineum direct to the urethra, but nearly horizontally between the urethra and the perineum, till they came to the openings in either. It accounted for the impossibility in most cases of urinary fistulæ of getting a probe beyond a very short distance; and it occurred to my mind at once how easy it would be to obliterate them by compression properly applied to the perineum. I have since met with other instances confirming this peculiar pathology, of which it will be sufficient to give the two following:—

A man of the name of Bolton had been under my care in the hospital with very bad stricture and perineal fistulæ, through which urine came whenever he passed water. He left the Hospital before anything effectual could be accomplished in the way of dilating the urethra. After many months he returned in a sinking state, fell into urinary coma, and died a few hours after. The kidneys, ureters, and bladder, were extensively diseased, but I shall confine my description to the urethra. The opening of the urethra from the bladder was larger than natural. On slitting it up, a contraction was found at the bulbous part, nearly amounting to complete obstruction. About an inch and a half around the stricture the tissues were consolidated and whitish, cutting like cartilage, and from the lower part of the stricture, for some distance anterior to it, and from the dilated portion behind it, a mass of induration extended down to the perineum. Fistulous tracts could be traced through this from the perineum up to the urethra. They went very obliquely into an oblong cavity of narrow dimensions which ran beneath the urethra, parallel to it, and along its lower surface. I had no doubt that some irregular depressions observable on the surface of the dilated urethra









behind the stricture had originally been orifices communicating with the fistulous cavity and perineal outlets; a delicate transparent membranous band lay across the floor of this dilated portion of the urethra, and was, I believe, the remains of the valve with which nature attempts to close the inner orifice of urinary fistulæ.

A man aged 50 was admitted into the Richmond Hospital, October 28th, 1846, with aggravated symptoms of stricture, the result of a fall on the perineum many years before. There was a hard tumour in the perineum, which I opened, and which, after discharging pus and urine for a few days, finally closed. No instrument, not even the smallest catgut, could be got into the bladder. From the complaint he made of pain in the loins, lassitude, occasional vomiting, and the appearance of a cloud of pus in the urine, which remained acid forty-eight hours after having been passed, I diagnosed the existence of serious disease of the kidneys, and considered the operations of perforation or division of the stricture inadmissible. He soon after gradually sank, wasted by diarrhœa, in addition to his other complaints.

The liver was found very much enlarged, and paler than natural; both kidneys remarkably diseased, full of round pustules varying in size from a millet-seed to a large pea; the cortical substance redder than natural; the left kidney of its usual size; the right kidney double its ordinary calibre.

The urethra healthy till a little anterior to the bulb, where there was a contraction so close as nearly entirely to close the passage. At the seat of stricture the surrounding parts were white, fibrous, and indurated. Behind this obstruction the urethra was dilated; the natural smoothness of the membrane gone; the surface irregular, and here and there superficially ulcerated. At the posterior part of the dilatation was a circular opening, which readily admitted a probe, and which had, no doubt, communicated with the urinary abscess. This opening was almost entirely covered by a membranous projection, from behind forwards, that must have acted like a valve, closing the aperture when pressed upon by the urine coming from the bladder<sup>a</sup>.

Another stricture existed behind the first, stretching across the membranous portion of the urethra like a band. From this to the bladder there was great dilatation, particularly of the internal orifice. The prostate was somewhat enlarged and projecting.

<sup>a</sup> See Plate IV.



The consideration of these pathological conditions, viz. the extreme obliquity of the fistulæ, and the almost valvular membrane over the internal orifice, confirmed me in the idea that compression would be very useful in the treatment of some cases of urinary fistulæ. For, properly applied over the perineum, it ought, by bringing the sides of the fistulæ together, to obliterate them; as we so often find it do in mammary fistulæ, and those remaining in the groin after the suppuration of the lymphatic glands in cases of constitutional bubo; and also, by pressing upwards the lower side of the urethra against a catheter retained in the bladder, it would tend to shut the internal valvular orifice, and, by thus preventing the entrance of urine, materially assist the first object. A few examples will show that these anticipations have been realized.

*A Calculus in the Urethra, with Perineal Fistula; Removal of the Calculus, and Cure of the Fistula by Compression.*

April 16, 1849. Lennan, aged 40, a tiler, has a fistula in perineo discharging urine, and such obstruction in the urethra that, with much forcing, the water only comes in drops; the smallest instrument cannot be got beyond an impediment just anterior to the bulb. The perineum appeared a little fuller than it ought to be; and towards the left side, near the anus, it is red and swollen, with a small red papilla in its centre, from which a clear drop of urine oozes. On examining the perineum there can be felt, in the situation of the bulb, an oval tumour of stony hardness; it ends anteriorly in a narrow extremity, and there is some induration of the urethra before it. The tumour extends behind the anterior end of the anus; it is not fixed or imbedded, but when grasped between the finger and thumb can be moved from side to side. From the excessive hardness and this lateral mobility, I regarded it as a stone lodged in the urethra. The history was in favour of this. A year and a half ago he suffered from severe pain in the left loin, which suddenly left him, and he then felt uneasiness in the urethra, and obstruction to the passage of water; he could distinguish in the perineum a small hard body, moveable under the skin; this became gradually larger, and the obstruction proportionably increased until an abscess formed in the perineum, which burst and left the present fistula.

A few days after admission he got complete retention of urine; the resident pupil, Mr. O'Gorman, tried in vain to get through the contracted portion of the urethra anterior to the

calculus. When I arrived I found him suffering very much; the bladder immensely distended, reaching to the umbilicus, and a constant dribbling away from the urethra; he was calling loudly for any operation to give him relief. I passed a staff down to the obstruction, gave it to an assistant to hold, and then, fixing the tumour with my fingers, I made an incision from the scrotum to the anus, through the strictured portion of the urethra, and down to a stone, against which the knife grated; the free incision allowed a ready escape of the calculus, which was for such a situation of large size. While dislodging it the urine gushed out with great force, and after the stone was extracted it all came away through the wound, with instant relief; the bladder was paralyzed to a certain extent by the over-distention, and it was necessary to press it to expel the whole of the urine after the first gush had taken place. The stone was of a pale yellow colour, with a smooth surface, dusted with small, bright, shining crystals, the shape irregularly pyriform, nearly tapering to a point anteriorly, and bulbous behind, moulded in fact to the distended bulbous portion of the urethra.

The section, as seen in the drawing, shows the nucleus not in the centre, the deposit of increase, after its lodgment in the urethra, being all from behind. Examined by Dr.



Frazer, it was found to be a fusible calculus. For some time the water came nearly entirely by the cut in the perineum. A fortnight after, I introduced a gum-elastic catheter into the bladder, which I found best accomplished by passing the end from the urethra out at the wound, and then from the wound into the bladder; I secured it in, and kept it so for two days. This plan of leaving the catheter in for a few days at a time, sometimes four days together, soon brought the passage of water to the natural channel, but not entirely, as, when I left home for England, on May 26, some came by the fistula, the opening of which was very small. Though requested to come to me on my return from England, I did not see him until June 27, 1850, a year after. He then came to the hospital, the fistula open, and a good deal of the water passing by it. It looked like a raised white papilla, in the centre of which a very small opening existed. I passed in a No. 7 gum-elastic catheter and secured it; and, wishing to try the effect of compression, I applied a compress over the fistula, with a tight bandage.

June 28. Since the instrument has been in, and the com-



press applied, he has felt no urine to come by the fistula. When I removed the compress, I found the fistula quite dry and closed. I took out the catheter, and told him not to make water for some hours; when he did so, *none came by the fistula.*

July 1st. No return of water by the fistula, which is, therefore, completely closed. The water came in a very good stream by the urethra. He left hospital contrary to my wish, as I did not think the strictured part of the urethra was sufficiently dilated to secure the permanence of his cure. Accordingly, he was re-admitted two months after, August 28, 1850, with symptoms of abscess at the neck of the bladder, pain, frequency in urinating, pus in the urine, which remained acid after having been kept several days, fulness, tenderness, and irregular soft and hard feel of the prostate; the fistula had re-opened, and much of the water came by it. The urethra was hard and contracted near the strictured portion, which would not admit a No. 5 silver catheter; I succeeded, however, in gradually dilating the stricture, and in curing the irritation of the bladder, but the fistula still remained open. I therefore introduced a gum-elastic catheter, secured it in, applied pressure to the fistula in the usual manner, and in *twelve hours* it was quite closed and dry.

He continued well for nearly two years, but in consequence of the same neglect in coming to have instruments passed, and the stricture consequently closing, the fistula broke out again. I had much trouble in dilating the stricture, and when I got as far as a No. 8 gum-elastic catheter, the fistula remained still open. On Thursday, August 5, 1852, I kept the instrument in, and applied compresses of lint graduated, so as to make firm pressure at the seat of the fistula. On the next day I removed the compresses, and found the lint dry,—the fistula closed by a thin film of skin. I kept him in for three months after the fistula was closed, in order to dilate the passage. This was fully accomplished, as I got in a No. 11 silver catheter, and I then taught him to pass a catheter for himself. It is now ten months since he left the hospital, and the fistula has remained closed.

The relapses of the fistula in this case have, of course, nothing to say to the method of cure: accomplished by any of the ordinary means, the carelessness of the patient to attend to the proper after-treatment of complete dilatation of the strictured part of the urethra would have the same result. A man once the subject of urinary abscess and fistula will, on the stricture contracting again, and the parts behind getting

irritated and inflamed, be liable to a return of the disease; but on three occasions, in a period of four years, compression stopped the urinary fistula, it may be said, at once. On two of these the pad was removed after twenty-four hours, and the fistula found closed; in the third, compression for twelve hours only was sufficient for the cure. It is rare indeed that such a result is accomplished in so short a time and with such safety to the patient by any other means,—keeping the instrument in the bladder will certainly not generally do it; besides, in this case it had been already tried unsuccessfully for two, three, and four days at a time.

*Urinary Fistulæ, Abdominal and Perineal, cured by Compression.*

John Campbell, aged 29, admitted into hospital in July, 1849. Has three urinary fistulæ, one in the perineum near the scrotum, a second on the abdomen at the root of the penis, and the third and principal one at the lower part of the abdomen, three fingers' breadth from the root of the penis, marked by a protuberant papilla in the centre of a cicatrix. Pus and urine can be pressed from this. From the two first the urine dribbles out on micturition, and it comes from the last in a double stream, with a strong jet, at least a foot from the belly. It is difficult to say whether more urine passes this way than by the penis. The belly is all scarred with the cicatrices of former incisions, made to relieve the infiltration of urine, and to give exit to sloughs. These scars are of a dull red colour, and some, not quite healed, are covered by scabs. They are chiefly confined to the right side of the abdomen. The integuments of the pubis and right hypogastrium are pale red, glossy, and swollen, and the fold of the right groin is made a deep sulcus. There is some tenderness on pressure.

He had gonorrhœa nine years before, and two years after, symptoms of stricture began. Three years ago, whilst travelling in the canal-boat, he drank an immense quantity of ginger beer (seventeen half-pint bottles!) The next day he had great pain at the bottom of the belly, and was unable to make water. A surgeon passed an instrument and relieved him. This operation had to be performed twice subsequently. The water only flowed in a small stream, and deposited a mucous sediment. Six months since, after shivering, profuse sweats, and the most intense pain over the pubis, which became red and swollen, he suddenly got extravasation of urine, and was obliged to go into the Tullamore Infirmary. By the judicious treatment he there underwent,—extensive incisions, &c., his life



was no doubt saved. He remained there until a few weeks ago, pretty much in his present state. While in the infirmary he says that an instrument had been kept for several days in the bladder. I succeeded, a week after his admission, in getting a No. 8 gum-elastic catheter into the bladder; the same day I opened an abscess in the scrotum.

The next day, July 28, I re-introduced the gum elastic catheter, left it in, and applied compresses over the three fistulæ.

30th. No urinary discharge from the fistulous openings at the base of the penis and perineum; but a dribbling still from the one above the pubis.

31st. Slept well last night. The instrument was changed for a larger one. When the compresses were removed a small quantity of pus and urine escaped from the upper fistula. The compresses and bandage were re-applied.

August 2nd. The urine has ceased to come from the fistula above the pubis. The instrument was taken out and the compresses removed, and he was let out on pass for some pressing business.

Two days after, a little urine appeared at the supra-pubic fistula. I therefore introduced the catheter, and applied the compression as before. I did not remove it for a few days, after which no more water appeared. My clinical clerk, Mr. Stewart, observes in his report of the 14th:—"I witnessed him making water; not a drop came from any of the fistulæ. The urine came in a full stream, and appeared natural."

I kept him in hospital until the 6th of September to insure the proper dilatation of the passage; he was then discharged perfectly well.

From the number and extent of the fistulæ, this case required more time, and yet in what other way would it have required so little to effect so complete a cure. It appears to me a striking instance of the value of compression. The most essential point of pressure I believe to have been that over the perineum; by its pressing on and closing the internal orifice, the urine was prevented entering it, and the supply, as it were, on which depended the existence of the abdominal branches of the main fistula was thus cut off.

T. Mooney, aged 40, a painter,—pale and sallow, a hard drinker,—was admitted into the Richmond Hospital, September 24, 1850, with retention of urine and a large urinary abscess. No instrument could be got into the bladder there was so close a stricture, but an opiate and the warm bath relieved

the retention. The abscess burst into the urethra, pressure on it causing a discharge of pus and urine from the urethra; and when he made water he observed the swelling in the perineum to become larger. He had frequent rigors and vomiting, and was generally extremely ill. For a short time he rallied, and got much better, he then became worse, with a return of the rigors and vomiting, and great obstruction in passing water, once amounting to complete retention, which was suddenly relieved in the warm bath by a gush of pus coming from the urethra. These symptoms arose from the abscess working its way to the perineum, which, as well as the scrotum, had gradually become more swollen. I therefore made a free opening, and let out a quantity of pus and urine. This gave great relief, the urine flowing freely through the wound.

Oct. 23rd. I passed a No. 4 gum-elastic catheter, which I fastened in.

25th. The instrument still in; the greater part of the urine comes by the cut. I withdrew the catheter, and replaced it by one of No. 7; he had a rigor the next day, and I removed the instrument.

Nov. 3rd. I passed a No. 6 gum-elastic catheter, and left it in; at the end of the second day there seemed to be no disposition in the fistula to close; I therefore tried compression by means of a compress and bandage. The following day I found that it had answered admirably well, scarcely three or four drops having come by the fistula, and I re-applied the compress. The next day the fistula had completely closed. He remained in three weeks after to have the passage dilated, and then left sooner than I wished, but in every respect apparently well, and getting flesh.

The stricture here was a very bad one, extremely close, with a good deal of surrounding callosity of twenty years' standing; and three times he had urinary abscess. Little progress was made in closing the fistula by keeping an instrument in the bladder. The good effects of the pressure were most remarkable, and the speedy cure following its application needs no comment.

The fistula remained well for a year and five months, when he again presented himself at the hospital for admission. In the interval he had totally neglected the use of instruments, and had continued his usual drunken habits.

When admitted, April 21, 1852, his state was as follows:—There was a large urinary abscess extending from near the external abdominal ring down the right side of the scrotum to



the perineum. The whole of the scrotum was much swollen, tense, shining, and œdematous; the perineum was prominent, the central *raphé* forming a large ridge; the entire swelling hard and consolidated, except at the side of the scrotum, where it was soft, as if from the coming forward of matter.

I opened the abscess in the perineum very freely, finding it to be a regular cavity with hard walls. I also opened the abscess where it extended up by the side of scrotum. There was urine mixed with the pus in both.

He got much better, the openings gradually contracted, the scrotum became soft and nearly of its natural size; but the greater portion of the urine came through the fistula in the perineum and that at the side of the scrotum; only a small portion through the urethra.

I failed in several attempts to introduce an instrument into the bladder, being stopped by a hard cartilaginous mass about the bulbous portion. The patient himself, an ingenious, handy fellow, succeeded better by the following manœuvre:—He passed the gum-elastic catheter, without the stilette, till it rested against the stricture, he then put in the stilette, and, turning the point of the instrument in different directions, found that the passage inclined to the right, and passed it on into the bladder. By following this plan I afterwards introduced instruments readily, getting gradually up to No. 8; and at one time left it in for twenty-four hours. But though he improved greatly in his health, the pallid hue of his face being changed for a healthy colour, yet the fistula showed little signs of closing.

Aug. 5th. I introduced a No. 8 gum-elastic catheter, and applied a strong graduated compress, with a bandage, over the perineal fistula; the catheter was fastened by threads to two pins in the bandage on each side.

Previous to this his state was as follows:—A fistula in the perineum, and another anteriorly at the upper part of the right side of the scrotum near the root of the penis; a hard mass extending from the fistulæ to the penis; this hard mass was most probably the consolidated structure through which the fistulæ ran. The opening of the scrotal fistula is puckered, and projected over by a hard, white papilla. That in the perineum is difficult to make out; a firm, irregular, white projection, half the size of a marble, hanging over it. The urine comes chiefly by the two fistulous orifices; very little by the natural passage,—sometimes none at all. From the scrotal fistula it flows in a full stream; from the perineal freely, though drop by drop. In drawing off the water through the catheter previously to

applying the compress, some flowed at the same time from the perineal fistula. I applied a compress over it, very graduated, beginning with a very small piece of lint.

6th. I removed the compress, and took out the catheter. The compress was *not* wet with urine, and the opening of the perineal fistula seemed closed. A little, but very little, water had come by the scrotal fistula.

7th. The fistulæ were not closed, as he said that a small quantity of urine had come by the perineum, and a stream the size of a thread from the scrotal one.

9th. On carefully examining the perineal fistula immediately after he had made water, I could perceive no sign of any having come through it; but as he said he had himself perceived some on a previous occasion, I re-applied the compress and bandage.

10th. He bore the pressure well: I did not disturb it.

12th. I yesterday removed the compress and catheter; the fistulæ were perfectly closed and dry, and have continued so, and he can pass water very well. He was kept in the hospital until the 17th; both fistulæ well, in excellent health, and able to pass an instrument for himself.

It will be observed that though there were two fistulæ, a compress was only applied to the perineal one. I intended when this was closed to treat the other; this became unnecessary, the one compress, by pressing the parts around the catheter, prevented the entrance of urine, and effected the obliteration of both. This is important, as it is difficult to apply effectual compression to a fistula at the side of the scrotum.

These cases of themselves speak so plainly in favour of the treatment of urinary fistula by compression as to render it unnecessary for me to insist more in detail on its advantages. I feel convinced it will take a high place among the methods already used in treating this complaint, and though of course liable to occasional failure, the cases in which it will not succeed will be largely the exceptions. There is at least this great merit, that its application is unattended with any risk; and if the opening of the fistula be not completely closed, the state of the patient will be materially improved, and he will be after as fit or fitter for the trial of any of the other means of treatment that have at different times been proposed. The only other case in which I have tried compression without success proves this. A boy of the name of Doherty, aged 17, was admitted into the Richmond Hospital in September last. About two years before, he had fallen astride on a beam of



timber, and had ruptured the urethra. The retention of urine could only be relieved by an incision through the perineum down to the lacerated urethra. In spite of very judicious treatment, and the keeping of an instrument in the bladder for a long time, the wound never healed, but ended in a perineal fistula, through which the urine flowed freely. He went to the country, and at the end of two months the urethra had so contracted that for a long while no instrument could be got through the strictured part; and during many months a small silver catheter was once only passed into the bladder. He then remained in an hospital for eight months, when an incision was made through the fistula, and an instrument passed into the bladder and retained, but it had soon to be removed, from its exciting severe constitutional disturbance; and he left the hospital as bad as when he entered it.

When I first saw him, his state was wretched in the extreme. He could, with much straining, only pass water drop by drop, the greater part coming very freely from a fistula. This fistula was situated anterior to the anus, a small raised papilla admitting the point of a probe. It kept constantly oozing a clear, pale urine, wetting the sheets and bed, excoriating the perineum and anus, and keeping him in a sop of urine, rendering it necessary to put a double blanket and piece of oil-cloth under him. He was broken down in health and very irritable, unable to bear the perineum to be touched, or an instrument to be passed.

When I attempted the last, I found the smallest instrument arrested a little anterior to the place of the fistula, where a hardness of some extent could be felt. On pressing firmly with the point of the instrument it slipped out at the fistula.

Sixteen days after admission I got in a No. 3 metallic catheter, and by degrees increased the size to No. 10; but this not without difficulty, and the irritability of the urethra was such that it was not until two months after admission that he became in a condition to bear a gum-elastic catheter to remain in, and the compression to be applied.

Though I tried compression six or seven times, it did not accomplish the closing of the fistula, but a great improvement was effected.

Dec. 16th. After the third trial the report is—"He passes water in a good stream, and only a drop or two comes by the fistulous opening; an immense improvement has therefore been effected by the compression."

Beyond this I never could get, which I attribute to the internal opening being, probably, large from the nature of

the cause—a ruptured urethra; and secondly, from the fistula being nearly direct, as proved by the ready escape of the end of the instrument out through it when I first explored the urethra.

A few words as to the mode of applying the compression. If the fistula is deep at the bottom of a sulcus, as sometimes happens, it is best to put a very small compress of fuzzy lint over the opening, so as to fill up the hollow, and then graduated compresses over this; if the surface of the fistula is plain, a moderate-sized flat compress, with one or two larger ones over it, will do; a double-headed spica bandage of strong calico keeps these in their places, and exercises a firm, steady, equal compression. The bandage should be pinned to the compress, and plenty of pins should be used at the crossings of the bandage to prevent its slipping. The gum-elastic catheter, which has been previously introduced, may be best secured in by a piece of thread tied round the top, and the ends twisted round two pins, one in each groin, where the bandages cross. A little plug of wood in the catheter can be removed when the patient feels a desire to pass water,—it should not be done too often. If the patient says he thinks some water has come through the fistula, the bandage and compress can be removed, and if found to be the case, a larger-sized catheter can be passed, and fresh compresses and bandage applied with tighter pressure. But if there is no feeling of the water having come, the apparatus may be left on for forty-eight hours; and, as the cases here given prove, at the end of that time the cure of the fistula may be complete.

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ART. V.—*Selections from the Unpublished Manuscripts of the late ABRAHAM COLLES, Professor of Surgery to the Royal College of Surgeons of Ireland.* Edited by his Son, WILLIAM COLLES, F. R. C. S. I., Surgeon to Steevens' Hospital, &c.

(Continued from vol. XV. p. 289.)

## NO. 2.—INJURIES OF THE HEAD.

CASE I.—A man, aged 35, on Tuesday, August 22, 1815, received a kick from a horse on the left side of his skull. When brought into hospital his pulse was 60; he was bled twice that night: next morning the pulse was 120, without intermission. He lay quite insensible; breathing stertorous, slow; cheeks and lips puffed out at each expiration. He was constantly moving the arms as if to push them down. This motion seemed to be some-



what convulsive; pupils large, but not dilated; was sensible of pain when the wounded part was pressed on. The wound was through the anterior part of the temporal muscle, and exposed an undepressed fracture. The succeeding evening blood was seen to rise up through the fracture. On dividing the muscle, there appeared a depression at the inferior angle of the parietal bone; here a large crown of a trepan was applied. On the pieces being removed, a coagulum of blood pushed through the opening. Endeavouring to remove it, I found that taking away one portion only exposed another, so that I feared it was a mixture of blood and brain. A probe passed so deep as to cause alarm from its meeting no resistance. I now passed the probe curved along the inner surface of the cranium, and found the bones stripped of the dura mater, and then passed in my forefinger along the denuded bone towards the orbit. When up to the middle joint, I then felt the dura mater adhering to the bone. I now had courage, and turned out the coagulum, and then the dura mater was seen more extensively detached than I conceived it possible, the cavity being of a conical shape. During the day the man spoke once or twice; the countenance was natural, the breathing easy. On Thursday he was still better; he drank, answered questions, and all those strange motions of the arms ceased. Friday, still improving. Towards the afternoon he had one or two rigors; he frequently put his hand to the head, and drank largely. Early on Saturday he died.

*Post-mortem.*—Dura mater still at a considerable distance below the cranium, yet not so much as on the day of the operation. The surface of the dura mater was rough and thickened; the pia mater of a dirty colour, easily separated from the brain.

*Remarks.*—This case affords an instance of the propriety of early trepanning in cases of simple fracture of the skull, and convinces me of a fact I before doubted, that an effusion of blood on the dura mater might be to such an extent as to require the operation of the trepan. How was this membrane detached? How are we to account for the dura mater remaining depressed until the interval between it and the brain came to be filled up by blood?

CASE II.—March 17, 1819. A man was brought into hospital insensible. He was a stucco-plasterer. When at work in the morning he walked into a house near his employment, and asked was not he a stout man to walk with his coat on his arm. On being laughed at, he said, he fell off the scaffolding and hurt his head. Before he could say more, he became in-

sensible, and was brought to hospital. He was bled immediately after admission; but his extremities being cold, and his countenance pale, the bleeding was stopped. His breathing was slow and stertorous; pulse 46, not regular; pupils widely dilated and quite immovable; a depression, the size of a crown, was seen on the lower and anterior part of right parietal bone, and could be felt through the integuments. The severity of the symptoms, and the depressed state of the fracture, seemed to justify immediate operation. The integuments adhered to the bone. I saw two fractures at nearly right angles; no blood oozed up through these fractures; the bone was here very thin. On removing the piece, the blood pushed up into the opening, as if it was squeezed out forcibly, and on trying to turn out this, I found some florid fluid blood. The finger sunk to a frightful depth, I withdrew it, and carefully examined the discharged clots for any portion of brain, but not finding any, I again introduced the finger till it met the dura mater, which was not until it was up to the middle joint. Measured by a rule, it was much above an inch. I found the separation reached from a little above the trepan-hole down to the projection of the petrous bone and back to the longitudinal sinus. On turning out the coagulum, I saw the wound in the artery of the dura mater, which I could not reach without removing a further portion of bone. I held up the artery, and passed a curved needle under, between the artery and dura mater. Still coagula formed in the deep part of the wound; and I was obliged to introduce dossils of lint, with ligatures attached, filling up with pieces of sponge. The dura mater showed no disposition to rise up, nor did the breathing or pulse improve. He died in two or three days after.

CASE III.—October 21, 18—. At 1 o'clock on Sunday morning a gentleman fell from his horse. In a few minutes he was insensible; he then bled from the nose, seemed to arouse, and asked who struck him. When being put to bed, he retained his consciousness and recollection, then became suddenly comatose. Coma increasing on Monday evening, a crown and a half of a trepan were applied on the left parietal bone. A deep and extensive coagulum was found on the dura mater. There was a constant oozing of blood and formation of coagula. This could only be stopped by the application of lint dipped in spirits of turpentine. Pulse 120, small; countenance pale. He could now articulate, and felt a desire to pass urine; could move the right leg and arm slightly; both had been com-



pletely paralyzed. The dura mater was so extensively detached that the probe passed down to the base of the skull.

23rd. Improving; paralysis gone; mental faculties restored; no coagulum; wound filling up. He was gradually restored to health.

*Remarks.*—From this example we may adopt it as a rule, in cases in which there is a doubt where the blow was struck, to trepan on the parietal bone, for here the dura mater is more readily detached, being flat, and the course of the artery is here.

CASE IV.—1806. A man, aged 50, fell into a sawpit on Tuesday. He was insensible; breathing stertorous and slow; face pale; pupils contracted and immovable; passed urine and fæces involuntarily; had bled from nose, mouth, and left ear. He was bled largely. Next day he died, not having had any convulsions.

*Post-mortem.*—The dura mater was adherent to the bone; coagulated blood was effused on the pia mater, as large and thick as a dollar; pia mater all through of a red colour, as if smeared over with red currant jelly; a lump of clotted blood issued from the left hemisphere. The pia mater had been ruptured, and the brain appeared as if torn in two spots, each capable of containing the end of the thumb. The brain appeared as if broken down in texture. The brain was lacerated to a less extent on the right side; the ventricles contained serous fluid.

CASE V.—September 22, 18—. A gentleman, aged 30, was thrown from a car going rapidly. He bled from the nose. Next day he was brought to town. He lay as if asleep, but was perfectly rational and collected when spoken to. He described all his feelings, and even kept up a conversation on indifferent subjects. He was constantly changing his position, and in doing so required his head to be lifted on turning; breathing slightly stertorous; pulse slow, regular. He was bled on the evening of the accident, and again next morning; he was purged also. He complained of pain on the right side of the head. Wednesday, bled again. Friday, purged; had convulsions at 12 o'clock; they returned five or six times this day; both sides equally convulsed; from this time the pulse always ranged from 110 to 130. The bone was laid bare over the contused spot on the right side of the parietal bone, where a fracture was discovered: two crowns of trepan were applied; while sawing, blood oozed through the perforation to some extent, then

ceased; no convulsions after the trepan until next day, Saturday, when they returned; he was now bled largely; free from convulsions for five or six hours, when they returned again, and again with increased severity on Sunday, when another crown of trepan was applied. Monday he was bled again; the fits recurred; he passed urine and fæces involuntarily; great flatulency; a soft spot was perceived on the dura mater, which allows a finger to sink into it; incision there gave exit to a clear serous fluid. He died. His countenance continued florid until the last day of his illness; and though apparently he slept constantly, he still complained of great want of sleep.

*Post mortem.*—Dura mater slightly inflamed at the perforation; the vessels of the pia mater seemed to contain air; on the left side no effusion; on the right, coagulated blood was found covering it, increasing towards the base; on removing this, the brain appeared to have three cavities or ulcerations, evidently caused by rupture, for the pia mater remained unbroken.

CASE VI.—A man, aged 63, pitched on his head. After the injury he was able to walk, but soon became stupid. Pulse very quick; respiration slow; bleeding from the left ear. He became delirious, and at times convulsed. He was trepanned above the left ear; no extravasation; bone adhered to dura mater.

*Post-mortem.*—Fracture through the left petrous bone, and through semicircular canals; no blood over or under the dura mater; the right anterior lobe of the brain was literally broken in pieces, with blood effused among its sinuosities.

CASE VII.—Sunday, January 11, 1818. I saw, with Mr. Kirby, a boy about twelve years of age. Eight days previously he received an injury from one of his brothers throwing a shoemaker's pincers; the sharp end of one of the handles of which struck him in the left side of the head. In thirty hours after the injury he had vomiting, which still continued. Face swelled; pulse quick; a small wound of the scalp was on the left side of the head, a finger's breadth above the edge of the ear, not larger than would receive the blunt end of a probe. Through this a small portion of brain, evident from its colour and texture, and alternate elevation and subsidence, was protruded. A probe, passed perpendicularly, entered the skull; evidently a piece of bone was driven down and penetrated the dura mater.

Mr. Kirby operated at 5 o'clock, P. M. The operation caused great pain to the patient. Before the teeth of the saw



had entered, a piece of the outer table came off, still we should make the opening to allow the depressed bone to be removed. On raising the circle of bone I remarked some coagulated blood adhered to its internal surface, also to the dura mater very firmly. A small quantity of pus was also discovered. Mr. Kirby proceeded to extract the bone, which was little more than imbedded in the brain. He had a bad night, and some degree of fever.

Jan. 21st. This boy had a perfect recovery, and left hospital some days since.

CASE VIII.—October 3rd, 1808. A man, aged 28, on the 1st instant received a blow from the bit of a bridle. On admission into hospital he could not articulate, although he seemed in perfect possession of his senses. On putting out the tongue it was turned towards the right side; on attempting to drink a considerable part was thrown up from the mouth; he could move both hands freely.

A small wound of the scalp was found on the left side, over the posterior part of the frontal bone. The wound was not larger than this, (O); no contusion or puffiness; a probe passed in evidently within the cranium. A T-incision was made through the integuments, and a small hole of this size (O) was found in the bone; no fracture leading from it; he was bled and purged.

4th. Three small crowns of a trepan were applied to the neighbourhood of the fracture: the first, behind, showed a small portion of the inner table fractured; second crown, anterior, brought away a small portion of the inner table. He seemed very sensible of pain during the operation. Speech not improved; pulse 80; he was ordered a purging mixture.

7th. Passed a restless night, moaning constantly, putting his hand to his head; makes signs of being in pain; pulse 76. On examining the wound there was about a teaspoonful of pus on the dura mater, which was of a greenish colour, and detached towards the temple, and a small hole in the membrane allowed the probe to pass: to be bled to sixteen ounces.

9th. Bled again; ordered purging powders of calomel and jalap.

10th. Vomited; passed a better night; articulates better; discharge from the wound more copious.

11th. Was said to have had a rigor yesterday evening, but on inquiry it would seem to have been a short convulsion. Had another while his arm was being tied up to take six

ounces of blood; his breathing became stertorous; about 4 o'clock he died.

*Post-mortem.*—Dura mater had risen above the two first perforations, and was sloughy on separating. It appeared that a sloughy portion of brain passed through the opening which had been observed in the dura mater; this hole was large enough to admit the little finger. Pia mater on the anterior part of the left side redder than the rest. On cutting into the brain a very large abscess, containing an ounce of purulent fluid, was discovered. The medullary portion of brain round this abscess was without the red points, and of a yellow hue. The left lateral ventricle was larger than the right; both contained a quantity of reddish watery fluid.

CASE IX.—June 3rd, 18—. A man, aged 54, was flung from his horse, and struck his head against the stump of a tree; he remained senseless for some time, but did not vomit. On recovering from the shock he felt he had lost all power of moving his hands, but could move the legs.

After admission he was bled, but eight ounces only could be abstracted, which induced syncope; ordered purging powders. Next day the power of moving his arms appears a little improved, although not much above that of paralytic limbs; he complained of pain in his neck. Pulse 62; countenance natural; intellect perfectly clear; complained of much pain on pressure over the middle cervical vertebræ, but was more severely pained by a very slight pressure over the right eyebrow, where there was a fulness of the integuments, and the finger discovered a narrow depression extending from the inner angle of the orbit outwards to the temple. He was ordered calomel and jalap, which operated freely.

6th. The purging powders repeated; slept well; pressure on the part of the forehead where the depression was suspected caused a twitching or seemingly involuntary motion of the lower extremities. If the pressure was stronger, it caused him to toss the lower extremities. The upper were not at all affected by these trials. Purgatives and ammonia liniment ordered.

7th. Continued heavy; complained of a little pain in his head; pulse 58; appetite improving.

10th. Bled to fourteen ounces; he can move the right arm freely; the motion of the left very imperfect.

July 4th. Paralysis was observed, on his getting out of bed, to affect the left leg as well as the left arm. Depression of the frontal bone still to be felt, but much less; pressure here caused pain and distortion of the countenance. He was dis-



charged at his own request; intellect clear, and health in other respects good.

CASE X.—September 27th, 1827. Twelve days ago a gentleman, aged 36, fell off a pony, and immediately after came to town on a car. Lying in bed, pulse is 60, and regular; no tenderness on pressure over the liver. He complains of pain in the head, which occurs in fits at irregular intervals. Between the attacks of pain he is able to dress himself, and sit up for some hours, when he is obliged to go to bed, an attack of pain coming on.

28th. He died this day at 5 o'clock, P. M.; was reported to have become comatose early in the morning, and continued so until death. There was no examination.

*Remarks.*—This case is an instance of a rare train of symptoms terminating in death,—altogether different in character from the ordinary symptoms attending on injuries of the head. I ordered calomel, but it had not time to produce any effect.

CASE XI.—August 1st, 18—. Fourteen days ago, a boy, aged 11, was thrown from a horse, and fell on his head. He received a flesh wound, which bled freely. After four days he was admitted into hospital. Flesh torn by an angular wound coming over the eyebrow, extending in one direction along the sagittal sutures as far as the lambdoid; on the other to the termination of the coronal at the sphenoid bone. There was discharge of thickened yellowish matter, and the wound looked healthy till the seventh day, when the scalp over the frontal bone sloughed. He did not complain of pain of the head.

July 31st. The granulations flabby, discharging a thin gluey matter. He had a violent rigor, then a hot fit, and was delirious in the evening. Occasional delirium and tendency to rigors continued; and there was great thirst.

August 4th. The small crown of a trepan applied to the black part of the frontal bone gave exit to a teaspoonful of whitish and very fetid matter. After removing the bone, a probe could be passed freely between the dura mater and the skull.

5th. Vomited; had rigors; countenance flushed; pupils dilated on the entrance of light. Another crown of a trepan was applied higher up; no matter underneath it; the dura mater was adherent to the bone; had a violent convulsive fit which lasted half an hour; continued, with various changes, till the 11th, when the pulse was 120; dura mater, which at the time of the operation appeared tense, had now sunk away from the

cranium so as nearly to admit the finger to pass between them; the wound is granulating.

14th. He had three rigors.

17th. Had a severe rigor.

20th. A large abscess on the right shoulder was opened; he had purging; and there was a large discharge of matter from the left ear for the last eight days.

September 3rd. Died.

*Post-mortem*.—Scalp was slightly adherent to the bone; the dura mater also adhered internally. A large quantity of water flowed out on removing the dura mater; the anterior lobes of the brain adhered firmly, and a small quantity of coagulable lymph covered them. The cerebrum was softer than natural; the ventricles contained a large quantity of water; and the spinal marrow poured out a large quantity on pressure.

Rule to be deduced from this case is,—after trepanning we should pass the probe under the cranium to ascertain the extent of detachment of the dura mater from the bone; for it will be useless to make a perforation in any part thus detached.

CASE XII.—June 26th, 18—. A girl, aged 9, on Wednesday last had her head squeezed between the axletree and the body of a car. She remained speechless for some hours, and had vomiting during the first day. The right parietal bone seemed to have been flattened for more than the size of a crown; this flatness, however, has apparently diminished within the last three days. Near the upper edge of the flattened surface a cavity is to be felt in which the point of the little finger could turn. Pulse 108; skin natural; functions healthy.

30th. Has not had any return of vomiting, nor any symptom of disease whatever since the day after admission. Discharged.

CASE XIII.—A boy, aged 9, was admitted into hospital 26th July, 1834. July 1st, he received a blow on the left side of his head which caused much hemorrhage; he vomited, but did not fall after the blow. He appeared perfectly well from that time until six days ago; his appetite was good; slept well; had no complaint. He then became stupid and sleepy, but disturbed by the slightest noise. Next began bawling night and day until two days since; he was restless, tossing his head about; vomiting; bowels confined; complained of pain in the head. Two days ago he fell asleep, and in a few hours awoke speechless and deaf; had no rigors or convulsions; seems idiotic, and moans constantly; pupils dilated; pulse 94; appetite



quite ravenous. A small wound, nearly cicatrized, was observed at the upper and back part of the parietal bone; an incision through this exposed the pericranium separated from the bone, and a small irregular depression beneath.

27th. Frequent vomiting; trepan removed a piece of bone firmly adhering to the dura mater, which seemed healthy. No matter was discovered; has ptosis of the left lid; the right arm is paralytic; he moves the left constantly to the head. Pulse 82; sat up in bed, and ate greedily.

28th. Recovered sense of hearing; no vomiting; has been taking calomel.

31st. A fungus of a dark colour filled up the wound; it is firm and elastic, with a distinct pulsation. The right side of his face paralytic, also the right arm; passes urine involuntarily.

August 1st. The discharge copious; fungus more prominent; runs to the fire when not watched; eats voraciously; constant yawning.

2nd. Seemed better in the morning; towards evening became restless; had some difficulty in swallowing; coma ensued, and he died.

*Post-mortem.*—Pericranium and dura mater were separated from the bone; no pus between them. On cutting through the membrane an abscess, containing about four ounces of a thick greenish pus, between the layers of the arachnoid covering the left hemisphere, was opened; it was quite circumscribed, and lined with lymph; it was situated chiefly below the opening. Had pushed the brain to the opposite side; the substance of the affected side was softer and paler than the other.

CASE XIV.—A man, aged 26, was ridden over sixteen days ago. He was not rendered insensible; he bled from one ear; complained of great pain and heat on the slightest motion; was rather deaf; blood flowed for two or three days from the ear, gradually changed to a serous discharge. A blister removed the uneasiness of his head, and he left the hospital.

CASE XV.—A boy, aged 4, fell down a balustrade, and broke his left humerus. He had also bleeding from the right ear. He awoke every quarter of an hour from sleep, whining. In twenty-four hours the bleeding from the ear changed into a serous discharge, and ceased in four or five days. He recovered perfectly.

*Remarks.*—These two cases, with one mentioned to me by Mr. Wilmot, prove that bleeding from the ear is not always

fatal, and that the serous discharge, also, when following bleeding, is not fatal.

CASE XVI.—A man, about thirty-five years old, received a kick from a horse a little above and behind the ear. A limpid serous discharge took place from the ear, and continued for four or five days. The other symptoms of the injury were not alarming, except that his pulse was quick. He recovered perfectly.

CASE XVII.—A boy, aged 4, July 1, received a kick from a horse on the left side of his head. On raising him he vomited; the wound bled freely; vomiting constant until the third day, when he had bleeding from the nose. He walked about for five days after the accident, rested well, and had a good appetite. Fifth day he complained of sickness, and vomited; restless; no pain in his head; no appetite; countenance flushed; fifteenth day he complained of pain in the head; had no shivering since the accident. A small wound on the left parietal bone emits a thin, gleety discharge; pupils dilated; pulse quick and intermittent. A crucial incision was made; and showed a large portion of the parietal bone, next the coronal and sagittal suture, depressed. On removing two small pieces of bone, a large quantity of thick yellow matter flowed from within. The trepan was applied, a portion of depressed bone raised, and some removed. Pulse 120, regular, vomiting ceased. He suffered from hooping-cough, which he had previously to the accident.

August 26th. Constant improvement: discharged; wound granulating, and healthy discharge.

CASE XVIII.—A man was admitted on the 9th for a small cut on his head, caused by a board falling on him, by which he was knocked down. No suspicion, until the day before his death, that matter had been lodged in the brain, or that the symptoms, which were mild, indicated any injury of his head, as he only complained of weakness about his heart.

*Post-mortem*, 27th, having died on the 26th.—While sawing through the frontal bone a quantity of yellow serum flowed out, as also from under the left temporal bone; some purulent matter flowed from under the dura mater, immediately over the left ear; a small quantity of pus covered the dura mater to the extent of the fissure. Here a whitish fungus rose above the dura mater apparently through an opening in the membrane; the edges were ragged. On the surface of the pia mater was a quan-



tity of purulent matter, thick and adherent over the anterior and middle part of the left hemisphere. The pia mater under this was vascular; the effusion extended slightly over the left hemisphere: and at the site of the fissure was a small abscess in the substance of the brain, capable of receiving the end of the fourth finger. Ventricles contained serous fluid.

CASE XIX.—February 10, 1813. Opened the head of a man. In cutting through the brain a quantity of good purulent matter flowed out from an abscess capable of holding half a pint, which formed in the posterior part of the brain, and this had been making its way to the surface, for the dura mater had passed through an opening in the bone, and a very thin layer of brain interposed. The walls of the abscess were formed of coagulable lymph, different from brain, and vascular; the right ventricle was distended with sero-purulent fluid, which did not communicate with the abscess.

CASE XX.—A man, aged 24, got a kick from a horse on the forehead, on Saturday, March 2, after which he lay for some time insensible, and bled profusely; in two hours afterwards he was brought home, and walked up a few steps of a ladder to his room. He continued perfectly sensible, though quite deaf, till next morning, when he became delirious, so as to require being tied in bed. Pulse 50, full, labouring; countenance flushed; pupils dilated; a semicircular wound, about two inches in length, appeared on the middle of the forehead; he lay quite insensible, but on the application of an instrument, he became perfectly frantic. On separating the pericranium from the bone, a fracture was seen. His legs were perfectly cold, and had been so since the accident; he was bled largely the night before admission; within eight hours after, sixteen ounces of blood were drawn, and a purging enema administered; he slept well; spoke rationally next morning, but was quite deaf. Pulse 68; ordered calomel and scammony.

March 4th. Rested well last night; seems to recover his senses; no pain in the head; less flushed; pulse 70; to repeat powder and enema.

5th. Last night expressed much apprehension of dying, and complained of great pain in his head; had slight startings; extremities cold. Died at 5 o'clock this morning.

*Post-mortem.*—On raising the dura mater, a large quantity of dark blood was seen covering the pia mater, the veins of which were much distended; no particular appearance of the brain opposite the fracture. On cutting into the posterior

part of the right ventricle, a small quantity of purulent matter poured out; matter was also found in the left ventricle in less quantity; the os frontis was fractured into a number of pieces between the orbits; on the left side, a piece of bone, quite loose, pressed inwards near the crista galli; the base of the brain natural; frontal sinus filled with blood and pus.

CASE XXI.—June 9th. A man, aged 33, had his head squeezed between a mill-wheel and the wall. On admission, the skin was quite cold; in two hours after he became hot; the pulse full and hard; intellect not at all impaired; did not vomit. On the left side of his head, near the top, was a lacerated wound; about three inches of bone were bare and fractured; he was bled to twenty-four ounces, and the bleeding was repeated in the evening to ten ounces: from the 10th he could not swallow, constantly throwing his limbs about; he became insensible. A crown of a trepan was applied a little above the orbit; the dura mater detached, but two dark spots were observed on it; the dura mater rose up into the perforation, and was separated from the bone to a considerable extent: no improvement; passing urine involuntarily.

11th. Dura mater still rising through the perforation, and tense; an incision with the point of a lancet was made, about one-eighth of an inch long, on the dura mater, which gave issue to about a teaspoonful of purulent matter; a vessel was also divided, which bled freely; this vessel could not be seized by the tenaculum, but agaric readily restrained the hemorrhage; the tumours of the dura mater were not at all diminished. He died at 8 o'clock.

*Post-mortem.*—Dura mater sunk considerably below the bone, red, and had a livid appearance along the orbital process; on raising it, the pia mater of the left hemisphere was seen covered with thick pus; some also was seen on the anterior part of the right side; at the perforation the pia mater was black, and a vessel crossing it; a considerable quantity of water was found in both ventricles, at the junction of the cerebrum and cerebellum the pia mater was covered with a firm, buffy coagulum, extending to the base of the brain; blood was extravasated between the cranium and dura mater and on the left part of the right orbit; the fracture traversed the orbit, and ran on towards the crista galli.

CASE XXII.—A gentleman, aged 28, was struck on October 25th by a watchman's pole; he remained senseless for some time; a small scratch was observed about the middle of the



right eyebrow; this bled rather freely. He said that the sharp point of the pole struck him, for he felt as if the man dragged it out: next day the eye-ball appeared to be protruded from the socket; he was bled; purging pills produced no effect without the aid of an enema; he vomited during the day frequently.

27th. No vomiting; great pain in the anterior part of his head on sitting up; right eye sees well, though painful and protruded.

28th. Pulse 60.

29th. Great pain in the eye; quiet manner, and has become very talkative; pulse 44, irregular; pain intermits; bled.

30th. Incision was made along the orbit, and he was again bled.

November 3rd. Improving for one or two days after. He complained of severe pain in the arm-pits, which, however, relieved the head; during its continuance he felt as if he was out of his mind.

7th. Eye less protruded; pulse 72; sleeps uneasy at night, and complained of pain in the temple, which caused great agony; the incision of the orbit was increased, but nothing could be discovered; worse; pulse from 50 to 60, or 44, quickened on the slightest exertion.

8th. Bled to twenty ounces; pulse became rapid, up to 90; eye daily more protruded, still sound. He died on the 10th of November. At times he raved, yet he always answered rationally. Previously to death he had two fits, in which the left arm and leg were less moved than the right, but were not paralytic.

*Post-mortem.*—Dura mater healthy; slight red tinge over the pia mater, as if painted over; the anterior lobes were of a yellow colour, flaccid, and gave the sensation of fluctuation; they contained an abscess with healthy pus, which extended from behind the middle lobe forwards towards the sphenoid bone, where it adhered to the dura mater, which was detached from the bone, except a small portion of the orbit; through this there was a communication with the abscess in the upper part of the orbit, a very short distance from the incision.

The error in this case was in supposing the blow to be made by a blunt instrument; if this was so, there would have been ecchymosis, and if merely a scratch, it would not have rendered him senseless.

I have selected these from a large collection of cases of injuries of the head, as possessing most points of interest. At the time they were reported, thirty or forty years ago, injuries of

the head were of much more frequent occurrence than at present; the hospital was then seldom without two or three severe cases of the injury together, whereas, at the present time, we do not meet with the same number of cases in a month. Consideration of the cases may lead us to hesitate before adopting the received opinion concerning the various symptoms and effects of these injuries.

First, As to the difference said to exist between the symptoms indicating concussion or compression, and which has so engaged the ingenuity of surgeons, it had frequently been asserted by my father in his lectures, that he never saw a case where the head was examined after death, that some alteration could not be discovered sufficient to account for the patient's death, without resorting to the vague expression of concussion; and if we come to apply the observation and reasoning which is used in the case of injuries of other parts to those of the head, we shall obtain clearer views of the difference between concussion and compression without entirely denying the existence of the former state.

In other severe injuries, we know the first effect is the inducing that state which is denominated shock, or stage of collapse, and that this is in proportion to the severity of the injury, and generally goes off in a longer or shorter time; yet that it at times does prove fatal,—still the cause remains evident.

So, in injuries of the head, the first effect of the blow, if severe, is to cause that state of collapse, shock, or concussion; but the blow which had caused it must have also produced some very evident changes in the structure and functions of the brain generally manifest to our senses. Yet a case may occur where the patient may have died during the stage of collapse, and the disorganization of the brain produced by the blow may be of such a nature as would not present changes of structure evident to our senses, till the stage of re-action had ensued; nevertheless such a combination must be of very rare occurrence.

The next point I would direct attention to is the explanation adopted regarding the cause of compression from effusion of blood. From the time of Pott, it has been said that the blow caused a rupture of minute vessels, connecting the dura mater and the skull; these poured out their blood slowly and gradually; this gave rise to the second stupefaction: but I think it a much more probable explanation, and one more consistent with the known action of such minute vessels, to say, that the first effect of the blow is to cause the separation of the dura mater from the bone, by tearing these vessels,—that they then



pour out their blood until the space thus made is filled up, and when this is effected, no more blood can escape from them, as they cannot enlarge this space.

That another immediate effect of the blow is to produce such a state of the substance of the brain itself that it becomes shrunk; as has been frequently observed when the head has been examined soon after sudden death produced by a blow, the brain being found not to fill up the cavity of the skull. This state must also exist to allow the effusion to progress without strong action in the vessels; and when the re-action would set in, and the brain again rise to its former dimensions, then the symptoms of pressure would show themselves, and would differ from those previously observed, which partook more of the nature of dependency on concussion or shock.

The first of these cases shows a great extent of extravasation, and would lead us to resort at times to a very early operation, and that with some prospect of success; and although the quantity of blood effused, and of brain displaced, were very considerable indeed, yet the very evident improvement, unfortunately not permanent in the first case, might induce the consideration, whether the result might not have been different had the operation been performed even earlier, and the brain allowed sooner to resume its former dimensions. We cannot read these cases without also seeing how difficulty and doubt may arise even during an operation which would confuse many surgeons, and the determination of which must have such influence on the subsequent treatment; and we must also be struck with the ready, simple, and effectual expedient which presented itself to the mind to clear up the doubt, and show that though the injury was extensive, yet the dura mater was uninjured.

There are several cases recorded in which the blood was effused on the pia mater and the base of the brain; they, however, do not present any peculiarity of symptoms, treatment, or termination, to render them of importance, nor do they differ from many such which have been published. I may observe that, previously to the year 1810, my father remarked the occurrence of rupture of the structures of the brain in consequence of injury, and the simple fact of the pia mater being uninjured showed that the rupture was not an effect of either the instruments or bone driven in. Then, as to the invasion of inflammation or suppuration within the skull, the symptoms and times laid down are not to be entirely relied on, for we find matter may form in forty-eight hours, and we may have a very large abscess in the substance of the brain itself without the

diagnostic rigors and fever, or even without any symptoms which would lead us to suspect that organ to be the seat of the diseased action; we may also observe that the matter may form round a depressed bone, or on a circumscribed cyst external to or in the substance of the brain, or diffused over the entire surface of one hemisphere; and that the situation of the pus is as difficult to discover as that of effusion of blood, and our prospect of affording relief by an operation is not so favourable as in the latter result of the injury. It is to be regretted surgeons have not directed their attention more to the difference of the symptoms excited by injury in different parts of the brain itself. We find injuries affecting the anterior lobes of the brain induce a train of symptoms differing materially from those which injuries to the posterior lobes or base of the brain present.

I have seen several cases in which the bones of the orbit have been pushed in, or by a blow on the nose the ethmoid bone was driven in on the brain; and in every case the symptoms differed materially from those generally observed in other injuries of the head. In almost all, the patient seemed to complain little of the head, merely of heaviness in it, or of slight headach, and he was able to sit up, move about, talking and eating as if in health, for a period ranging from one to three or four days; he would then suddenly become comatose, and the almost invariable termination would be in death. There are many such cases recorded, and I have seen several, but it is to be regretted that no one has yet made a collection of them, or drawn attention to the difference of the symptoms commonly attending on and distinguishing this form of injury.

There is another remark which a consideration of these cases suggests: that they almost invariably terminated fatally and certainly would induce us to give a more unfavourable prognosis where there is great torpidity of the bowels, when we must administer purgatives in large doses, both by the mouth and rectum, to produce any effect; while in those cases in which the usual purgatives act in the ordinary doses, we might entertain a much more favourable expectation of recovery. There are many other matters of inquiry which these cases must suggest to every practical mind, but which it would occupy too much space even to refer to here.



ART. VI.—*Observations upon Lipoma of the Nose*. By SAMUEL G. WILMOT, M. D., Surgeon to Steevens' Hospital, Lecturer on Surgery in the Carmichael School of Medicine, &c. &c.

TUMOURS of the simplest nature become the subject of surgical operation either from their interfering with important parts, from the inconvenience of their position, or from their unsightly or disfiguring appearance. For the two latter reasons, that curious growth from the nose which has received the name of "*Lipoma*" especially demands an operation for its removal. These tumours, growing from the extremity and alæ of the nose, when they acquire a large size hang downwards, disfiguring the individual so remarkably that he is compelled to observe the strictest retirement as the only means of screening himself from the unpleasant gaze of the public, and particularly from the juvenile part of it, who are apt, under such circumstances, to indulge their curiosity and risibility to rather a disagreeable extent.

But the annoyance arising from the disfigurement of a feature, the perfection of which is generally admitted to be, perhaps, not the least essential to beauty, is probably a secondary grievance compared with others to which this affection leads; for when the tumours attain a very large size,—which in some instances they do to an enormous degree,—they fall down over the mouth, thereby interfering with the exercise of the sense of smell, impeding respiration, and proving a source of great inconvenience in eating and drinking. Sometimes these lipomatous growths occur singly; but oftener two, three, or more, are to be found, varying in size. In the third volume of the *Memoires de l'Académie Royale de Chirurgie*, a plate is given by M. Civadier, showing two examples of this affection. In one case, four tumours are represented as having grown from both alæ of the nose, and which increased to such a magnitude that, to use M. Civadier's own words, "*qu'elles lui formoient les narines, couvroient entièrement la bouche, et tomboient jusqu'au bas du menton.*" In the other case, five tumours are pictured, one very large, and the four others small.

In the case in which Mr. Hey removed a large growth of this description,—a report of which, together with a plate, is to be found in the third edition of his works,—“the tumour extended to the lower part of the under lip, and compressed his mouth and nostrils so much when he lay down to sleep, that he was obliged to keep a tin tube within one of his nostrils, that he might be enabled to breathe. He also generally wore this tube in the daytime, as the pressure which his mouth and

nostrils suffered at all times from the bulk of his nose rendered breathing without this instrument somewhat troublesome. The tumour was in part immersed in the liquids which he drank, unless it was supported by his hand."

The nature of these growths was evidently quite misunderstood until lately. M. Civadier viewed the tumours he removed as carcinomatous; for in the work already alluded to he heads the account of the two cases he gives thus:—"Description de plusieurs Tumeurs Carcinomateuses situées sur le nez." M. Delonnes, also, in a pamphlet published subsequently, and entitled "The New Progress of Surgery in France," calls the same affection "a sarcoma tending to carcinoma." It is now well known, however, that this disease is quite benign in its nature, being a hypertrophied condition of the skin and subjacent areolar tissue, with great enlargement of the sebaceous follicles. Dalrymple gives the following description of the affection:—"This disease cannot be called simple hypertrophy, since this tissue has lost its natural pliancy and natural colour; but rather approaches to a state of *elephantiasis*, in which the cellularity is partially destroyed, and a fibro-cellular structure substituted. The mass presents, externally, a nodulated surface of a purple or deep red colour, traversed by numerous minute and tortuous vessels. The larger separated portions are frequently divided from each other by deep fissures, occupying in many cases the convexities of the alæ and extremity of the nose. Where the disease has been of long standing, the altered state of skin advances as high as the junction of the frontal with the nasal integuments, seldom encroaching much on the palpebral furrows laterally, but accompanied, in the majority of instances, by a mottled state of the skin of the cheek, corresponding in colour and general appearance with the tumour of the nose. The sebaceous follicles are greatly enlarged; and their secretion is not only increased in quantity, but unless extreme cleanliness is attended to, it is offensive in smell, and excoriates the surrounding skin."

Notwithstanding the simple nature of the disease, it would seem that until recently surgeons were timid in operating upon it, apparently from the dread of hemorrhage. Sir W. Blizard is reported to have lost a patient from bleeding, upon whom he operated for the removal of a growth of this kind. Mr. Liston, however, in alluding to this unfortunate case, suggests the probability that there was an error in the diagnosis, and that the tumour must have been of the character of aneurism by anastomosis, and not lipoma. In the case operated



upon by Mr. Hey, the hemorrhage, he states, was so considerable that the patient, although a stout man, nearly fainted. It is natural to suppose that a hypertrophied structure, the growth of many years, should be extremely vascular, and consequently bleed smartly upon being cut; but this is no argument against the operation,—it is merely a reason for greater energy and quickness upon the part of the operator and his assistants. Mr. Liston says he has removed the disease “in a great many cases without one untoward accident.” Mr. Syme has also removed a very large lipomatous growth from the nose of a man aged upwards of 80 (the case is recorded in the *Edinburgh Monthly Journal* for September, 1852), without the least unpleasant consequence; and it is now quite evident, that there is no ground for refusing to rid any individual of so disagreeable and disfiguring a companion.

The following case, in which I was recently called upon to operate, is a good example of lipomatous disease, and illustrates the perfect success of the operation for its removal:—

I was requested by Dr. Tyler to accompany him to a short distance beyond Derry, for the purpose of removing a lipomatous excrescence from the nose of a gentleman, to whom the inconvenience arising from it became no longer endurable. The patient was sixty-five years of age, of healthy constitution, stout make, and rather florid complexion. The disease was of sixteen years' growth, and had increased more rapidly within the last five years than previously. There were two tumours. One, the larger of the two, equalled in bulk a good-sized apple; it was quite pendulous, and hung down over the mouth, being attached by a broad base, which extended from about the middle of the mesial line of the nose to its extreme point, and laterally upon each ala for a short distance: thus, the lower part of the nose was regularly imbedded, as it were, in the excrescence. The second tumour was about one-fourth of the size of the other, and was also pendulous; its base, which was rather oval in shape, being attached to the left alar cartilage. Upon raising up the tumours, the margin of the nostrils and the columna were observed to be perfectly free, so that it was obvious the morbid growth could be removed without injuring the proper form of the nose. The diseased mass was flaccid and corrugated, and when handled conveyed a peculiar soft, spongy sensation, with an obscure feeling of fluctuation, and upon pressing it firmly a quantity of sebaceous matter exuded from several points. The skin of the nose, generally, was coarse and rough, being studded over with enlarged crypts; and at the lower part of the right ala was a

tubercle, evidently the commencement of another tumour. The larger growth caused the greatest inconvenience: when the patient lay down to sleep, he was obliged, in order to breathe freely, to raise up the mass by means of a band passed beneath it and tied behind the head; and in eating and drinking much annoyance was experienced: besides this, the disfigurement from it was very remarkable.

With the assistance of Dr. M'Intire, of the Muff Dispensary, and Dr. Hunter, of Newtownlimavady, the tumour was removed. The large growth was first excised in the following manner:—The index finger of one of the assistants having—as recommended by Mr. Liston—been introduced into the right nostril, to give warning should the knife be carried too close to the cartilage, an incision was made along the right side of the base of the tumour, in a semicircular direction, extending from the mesial line above, running along the edge of the naris, and terminating at the point of the nose; the tumour was then dissected up to the median line. Next, the finger having been introduced into the left nostril, a similar incision was made along the left border of the base of the tumour, and this side was dissected up as far as the median line. When the tumour was removed, the cut surface was clipped with a scissors, to render it as smooth and even as possible. The only difficulty in the operation was the avoiding too close encroachment on the margin of the nares, and injury to the cartilage in dissecting round it in the mesial line; for the lower part of the nose was so buried in the base of the tumour, and the structure was so dense, that mischief might readily have been done to the cartilage if due care had not been taken.

The smaller tumour was removed by an elliptical incision, which left but a narrow cut.

The bleeding during the operation was very smart; there were several arteries, fully as large as the coronary of lip, divided, but after the dissection of the tumour was completed, it was immediately commanded by pressing a small piece of dry sponge firmly for a few moments against the surface, after which the vessels were taken up and secured separately.

For the first few days, water dressing was kept to the part, after which a lotion of sulphate of zinc, and subsequently one of borax, were applied. In less than four weeks the two cut surfaces were completely cicatrized.

After removal, the tumours were found to weigh nearly four ounces. Their structure, to the naked eye, appears to be composed of longitudinal fibres, taking a semicircular course, and bound so closely together that no trace of cellularity re-



mains. It is of an ashy-white colour, and extremely dense, which fully accounts for the sensation conveyed in dissecting up the tumour; for the point of the knife regularly grated against it, as if it were cutting through a gritty substance. Imbedded in it were several cysts, distended with atheromatous matter, varying from the size of a small pea to that of a hazel-nut, and which were doubtless the cause of the obscure feeling of fluctuation which the mass yielded.

While this paper was passing through the press I received a letter from Dr. M'Intire, from which the following is an extract:—"The operation has proved very satisfactory in its result. Our patient is now a very well-looking man, with a well-shaped and proportionate nose."

In the accompanying lithograph (Plate No. 5), an accurate representation is given of this unusually large lipomatous growth, and the inconvenience arising from it may be readily imagined.

ART. VII.—*Contributions to the Pathology of the Heart.* By BENJAMIN GEORGE M'DOWEL, A.B., M.D., one of the Physicians to the Whitworth and Hardwicke Hospital, Lecturer on Anatomy and Physiology in the Carmichael (formerly the Richmond Hospital) School of Anatomy, Medicine, and Surgery, &c. &c.

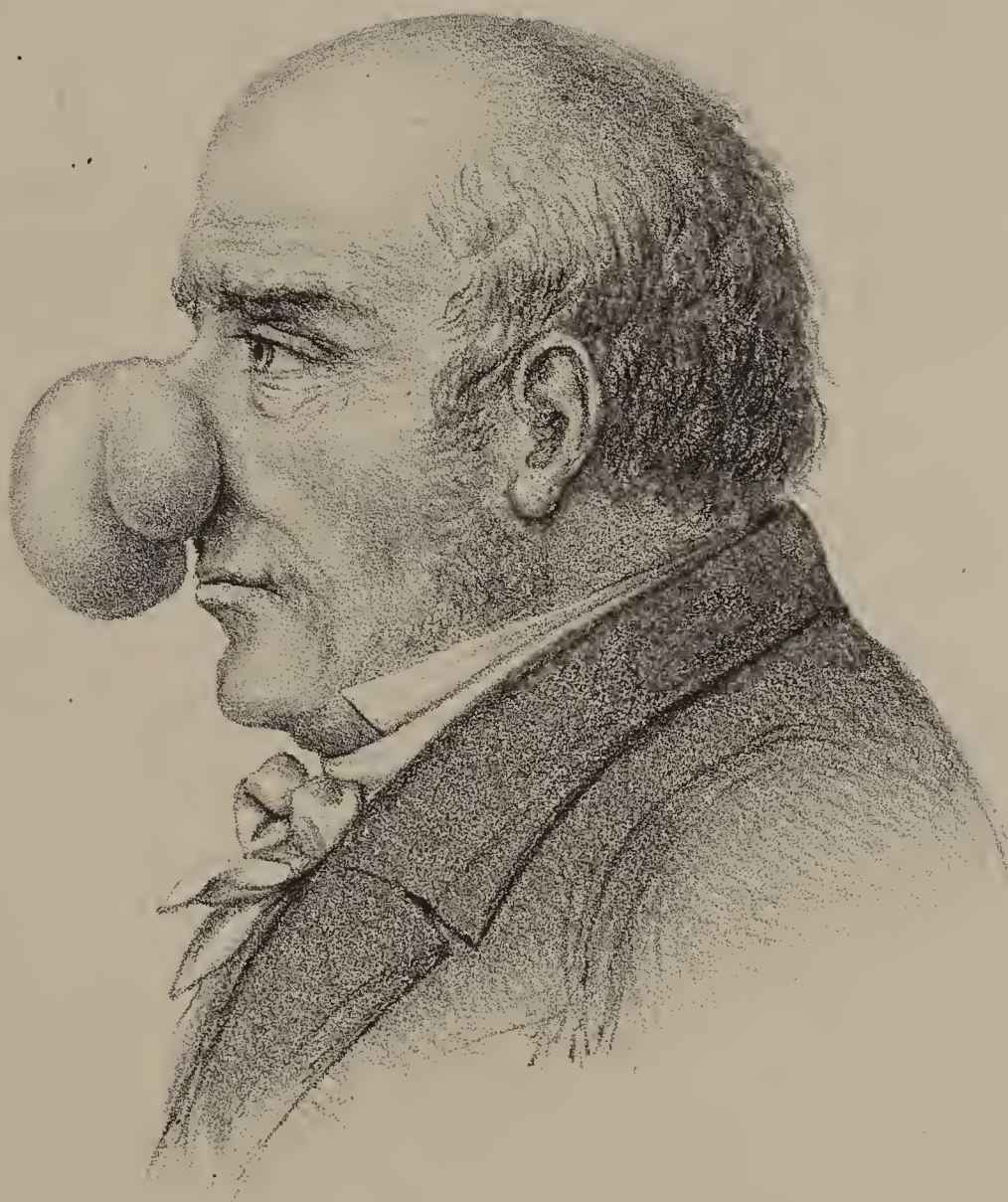
(Continued from Vol. XIV. p. 383.)

IN the twenty-eighth Number of the present series of this Journal I published a series of cases illustrative of the pathology of dilatation of the heart.

These cases were arranged so as to form two series. In the first, were placed examples of dilatation unaccompanied by valvular disease (Cases I. II. III. IV.). In the second, were grouped together instances in which dilatation had supervened on diseases of the valves. The latter were adduced to illustrate the identity of symptoms which arise in cases even of dissimilar valvular diseases, when during their progress they become complicated with dilatation of the heart's cavities. From the examples in the first group, the clinical history of dilatation of the heart is directly deducible, since in them that condition formed the sole lesion.

Amongst the influences which a consideration of these cases suggested was the following:—

"Dilatation may produce the general symptoms of obstruc-







tive valvular disease; or, when accompanied by softening, it may develop the signs which specially indicate mitral contraction."

I have since then, on two occasions, had the opportunity of verifying this observation, and shall take this opportunity of briefly noticing two cases, which in all essential characters belong to the same category as Cases I. II. III. and IV. of my former essay.

CASE XI.—*Dilatation of the Ventricles. Softening of the Muscular Tissue. Signs of Obstructed Circulation. No Valvular Disease.*

David Ryan, aged 52, admitted into the Whitworth Hospital under my care, January 4, 1853.

*History.*—He was formerly in the army, and had led a very dissipated life; when he left the service his intemperate habits, so far from being abandoned, were more or less freely indulged in for many years afterwards. He had suffered for a considerable period from the symptoms of heart disease, as palpitations and hurried breathing on making slight exertions, but had, nevertheless, been able to attend to even a laborious employment without more than temporary inconvenience. Four months before he came under my observation, however, he contracted a heavy cold, which he neglected until his breathing became so much affected that he was compelled to give up his employment and apply for hospital relief.

*Symptoms on Admission.*—There was excessive anasarca, with some effusion into the abdomen; the patient also complained of urgent dyspnœa, and of cough, with violent palpitations of the heart. The face was bloated, cheeks livid, jugular veins excessively distended; extreme irregularity of the heart and of the radial pulse was observed; the pulse at the wrist was disproportionately small as compared with the heart; percussion showed that the heart was much enlarged, especially in the transverse direction; its impulse was plainly visible in the epigastrium, denoting enlargement of the right cavities; *no abnormal bruit* accompanied its action; the liver was enlarged, the lungs were congested inferiorly, and the urine was albuminous.

Treatment was productive of but little benefit. Pulmonary hemorrhage was observed on two occasions; dropsical effusions increased; the legs became greatly distended, and the skin tense and discoloured; finally, gangrene of the extremi-



ties became fully developed, typhoid symptoms set in, and death ensued January 21st.

*Post-mortem Examination.*—The heart weighed eighteen ounces and a half, and was excessively enlarged; the muscular tissue of the ventricles was softened, and was not only more friable but paler than natural; the left ventricle was much dilated, and its walls moderately hypertrophied; in the right ventricle dilatation was accompanied by but slight increase in the thickness of the muscular parietes; both auricles were very capacious; *the valves were efficient without an exception*; the aorta was healthy; the kidneys were extensively diseased; liver enlarged, congested, and friable; spleen firm, but of normal size; lastly, there were evidences of peritonitis present, for recent lymph, of a greenish colour, was effused around the intestines, glueing their several coils together. It is worthy of observation, that this peritoneal inflammation—which, however, was of recent occurrence—was altogether latent, none of the symptoms which usually attend that affection having been developed.

In this instance there was no valvular disease, and hence excessive dilatation existed as the sole cardiac lesion. The symptoms of obstructed circulation, which were so fully developed, are thus directly connected with that particular morbid condition. Still further, the almost complete identity of the symptoms just detailed (owing, as I conceive, to the co-existence of muscular softening) with those which usually occur as the result of *obstructive mitral disease*, needs only to be alluded to; I refer more particularly to jugular distention, extreme dropsy, irregularity and feebleness of pulse, pulmonary hemorrhage, and gangrene of the lower extremities.

It is probable that in this instance *renal disorganization* is to be referred to as the *primary cause* of dilatation of the heart, and as the connexion between these two morbid states has been already adverted to in the former part of this paper, page 382, and Cases iv. and v., no further allusion to it is now necessary.

I would here observe that of all forms of organic dropsy that which depends on dilatation of the heart with softening for its cause appears to me to be that in which medicine is least efficacious. We occasionally see even extreme dropsical effusions, the effect of obstructive valvular disease, absorbed with great rapidity under judicious treatment. Not so in general the dropsy which depends on a dilated and softened heart. The difference in the result of treatment in the two classes of cases

may perhaps depend on this circumstance, that in the one, the muscular energy of the heart is unimpaired, so that, when vascular congestion is relieved and the heart unloaded, a free capillary circulation is promoted, and the functions of healthy nutrition are resumed; whilst in the case of the dilated heart, no such restoration to healthy functions can occur, as the heart's vigour, owing to change of form and perhaps of structure (softening) is permanently impaired.

CASE XII.—*Dilatation of the Ventricles. Softening of the Muscular Tissue. Signs of Obstructed Circulation. No Valvular Disease.*

James Kavanagh, aged 38, was admitted under my care the 25th of June, 1853. His face was pale and anxious, the surface of the body presented that peculiar waxy, pallid appearance which so generally indicates an impoverished condition of blood (*spanæmia*). The lower extremities were œdematous, and excessively cold; he complained a good deal of palpitations, and of a distressing feeling of exhaustion, but his chief suffering was from dyspnœa; he could seldom bear to lie down for more than a very brief period. After the exertion of speaking for a few minutes he would become perfectly breathless. During the night there were paroxysmal seizures, like those of *angina*, accompanied by substernal pain, undefinable anxiety, breathlessness, and coldness of the extremities.

The pulse was small, weak, and irregular. *Venous pulsation* was very manifest in the external jugulars; the blood rose and fell in these vessels rhythmically with the heart's action, and the current always came from below. The heart beat over a large surface with varying force; its sounds were confused by irregularity of action, but I was satisfied of the absence of any abnormal bruit. The heart's action extended into the epigastrium, and pressure here gave much uneasiness. There was extensive cardiac dulness, and the apex seemed to impinge against a large portion of the parietes.

Stimulants alone seemed to afford any relief. After a short time he became so weak as to be unable to sit up. His sufferings from dyspnœa were now extreme, the pulse became more and more feeble, and death ensued July 4th.

*Post-mortem Examination.*—The surface of the body presented the peculiar pale colour which had characterized it during life. The areolar tissue generally was infiltrated with serum. There was ascites to a moderate extent. The liver was congested. The kidneys appeared healthy; the heart was much



enlarged, and its apex was remarkably rounded. The ventricles were greatly dilated, whilst their walls were but moderately increased in thickness. The muscular tissue, however, was obviously in an unhealthy condition; it was very pale in colour, and so soft that the finger could easily be pushed through it.

Coagula were contained in both sides of the heart; that in the right cavities was of such firm consistence as to appear to have been formed before death. The auriculo-ventricular openings were dilated, especially that of the right side, which was enlarged to at least double its normal size. The right auricle was very capacious, and its walls were thinner than usual. The valves, without exception, were healthy, but regurgitation must have been freely permitted through the tricuspid orifice.

The pleura on the left side of the chest was greatly thickened; the left lung, which was universally adherent to the parietes of the chest, was much diminished in volume, and condensed in its structure. The tubes were not dilated; the right lung was of large size. In its lower lobe were numerous dark-coloured firm masses, of various sizes, the result of pulmonary apoplexy.

In all its essential characters this case will be found to be identical with the preceding, and with those reported in Section I., so that any detailed commentary on it would be superfluous. It shows the dependence of dilated orifices on dilated cavities, and further illustrates the observation already made, that "an exceedingly dilated heart, by its inefficiency to unload its chambers, produces symptoms similar to those which are the result of obstructive valvular disease." Nor is this apparent anomaly an isolated fact belonging specially to the pathology of the heart. In similar structures, analogous phenomena are not unfamiliar to us. I will, however, allude to only one instance of a similar kind for the sake of illustration, viz., that excessive dilatation of the œsophagus is accompanied by the same symptoms as usually denote organic stricture (mechanical obstruction) of that tube.

Angina in this instance is found associated with dilatation, as was also observed in Cases III. v. and VII.

From observing the distinct regurgitant pulsation in the jugular veins, it was predicated with tolerable certainty during life, that regurgitation through the right auriculo-ventricular opening was freely allowed, and the condition of the parts after death fully corroborated this opinion. That in this instance such regurgitation failed to develop an endocardial murmur, may perhaps be accounted for by the softened state of the muscular tissue of the right ventricle, which we may suppose, ow-

ing to this condition, to have been incapable of communicating to the blood an impetus sufficient to generate an audible bruit. That the circulation was carried on with much languor by the right side of the heart was amply proved by the formation of coagula in its cavities before life became extinct. I will only further add, that in Cases XIV. and XV., to be noticed hereafter, in both of which the right ventricle was much hypertrophied, and the muscular tissue healthy, tricuspid regurgitation was accompanied by a loud and persistent bellows murmur.

(*To be continued.*)

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ART. VIII.—*Report on the Epidemic Dysentery prevalent in the North of Ireland in 1852; based on Returns collected under the direction of a Committee of Medical Practitioners of Belfast; and drawn up by A. G. MALCOLM, M.D., Physician to the General Hospital, Belfast.*

IN the autum of 1852 it was observed by several physicians in Belfast that the ordinary diarrhœa incident to the season was more than usually complicated with choleric, and especially with dysenteric, disease. The latter malady, indeed, presented, in a considerable proportion of cases, a very aggravated type, and besides exhibited such unusual forms, both as regards duration and sequence of phenomena, that the idea of instituting an inquiry into the nature and treatment of the epidemic, upon an extended scale, was earnestly entertained by the reporter and a few of his medical friends.

Accordingly, a meeting was held upon the 14th of September, at which the propriety of commencing the inquiry was almost unanimously approved of, and a Committee appointed to carry out the details. On this Committee there were three members of the hospital staff, four of the dispensary staff, two private physicians, and eight general practitioners.

A circular, including a prospectus of the plan, a set of queries designed to elicit the chief points of the desired information, and a schedule for the brief reporting of cases illustrative of practice in the epidemic, was issued to medical practitioners in most of the towns in Ulster, on the 22nd of September, and from time to time subsequently, by several members of the Committee.

Replies were received, in due course, from sixty-three practitioners holding hospital or dispensary appointments, and forty-four physicians and surgeons engaged solely in private practice.

These practitioners were resident in forty-seven different localities. In thirteen of these the disease was epidemic; eighteen



presented but a few cases, and in the remaining sixteen there was a total absence of the malady. In addition to the replies made in the printed query-sheet, and the reports of forty cases illustrative of the epidemic, supplementary notices were received from practitioners in Belfast, Carrickfergus, Hollywood, Lifford, &c., besides notes of similar epidemics in 1847, 1849, and 1851, in various places in the North of Ireland, and of the Indian dysentery by two northern practitioners who have had extensive experience in the East.

It will be perceived from the returns thus collected, how abundant material for the elaboration of a report has been obtained; and, without further preface, I shall at once proceed to put my readers in possession of the practical information which this inquiry has educed.

And first, as to the general character of the epidemic in the localities visited, viewed in connexion with their sanitary and other external physical features. They shall be mentioned in the extent of their population, so far as known.

The epidemic commenced in Belfast in the beginning of July, reached its maximum figure in the week ending 4th of September, and subsided to the ordinary standard in the beginning of November. In this space of time there were registered on the books of the dispensary attendants a total of 1121 cases of diarrhœa and dysentery, including 345 of the former, and 776 of the latter. The annexed Table will show the order of distribution in the different districts into which the town is divided, besides the progressive *rise* and *decline* of the epidemic. To judge of the extent of the epidemic, compared with the ordinary amount of the same malady at other seasons, it will be sufficient to state that, for some weeks before and after the epidemic period, the average only reached ten cases, of which five were dysentery. We shall thus see that a maximum of twelve times this amount, and eighteen times the number in dysentery alone, was obtained at the acme of the epidemic.

Any one cognizant of the situation and sanitary character of Belfast will not be surprised to learn that epidemics have been of frequent occurrence in this now prosperous locality, ever since it deserved the appellation of town. Its low situation, three-fourths of its area being nearly a dead level, and a large portion being also under high water-mark, are circumstances which render it exceedingly insusceptible of perfect drainage, and, at the same time, calculated to promote atmospheric humidity. These facts, taken in connexion with the great and increasing population (100,300 according to the Census of 1851), and the vast

RETURNS of Weekly Admissions of Dysentery and Diarrhoea in the BELFAST DISPENSARY, from June 27 to November 6, 1852, arranged according to the Districts of the Town.

DISEASE.	JULY.					AUGUST.				SEPTEMBER.				OCTOBER.					NO.	TOTALS.		DISTRICTS.
	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30				
Dysentery, .	3	3	2	6	5	15	8	8	11	14	12	10	8	4	1	1	0	0	0	111	119	Shankhill.
Diarrhoea, .	0	0	1	0	0	0	0	2	0	1	0	0	1	1	1	0	1	0	1	8	178	Hospital.
Dysentery, .	0	3	3	4	5	5	7	5	8	8	10	5	6	4	4	2	1	6	1	79	147	Dock.
Diarrhoea, .	1	2	4	8	8	17	9	5	6	13	9	7	8	5	4	7	1	1	2	108	125	Cromac.
Dysentery, .	4	1	3	9	5	6	12	5	2	6	1	4	2	0	2	0	1	0	1	39	353	College.
Diarrhoea, .	0	1	4	4	5	3	3	1	2	13	7	3	8	5	2	1	1	2	0	80	199	Smithfield.
Dysentery, .	0	1	0	2	4	7	4	7	9	13	2	7	1	1	0	0	0	2	0	45		
Diarrhoea, .	0	3	3	1	5	3	6	7	1	5	2	5	1	1	0	6	13	3	3	251		
Dysentery, .	4	4	4	9	7	12	11	13	31	26	25	19	17	21	14	6	3	1	0	102		
Diarrhoea, .	2	6	3	7	8	2	9	12	13	11	11	2	4	4	3	1	3	1	0	147		
Dysentery, .	0	1	0	3	5	4	12	8	10	17	19	22	8	10	10	13	3	0	2	52		
Diarrhoea, .	2	1	2	6	3	15	4	4	7	2	1	3	1	0	1	0	0	0	0			
Total Dysen.	11	13	12	33	29	49	54	48	71	91	82	67	55	50	35	32	19	8	7	776		
Total Diarrh.	5	13	17	26	26	40	31	31	31	33	20	20	14	9	8	3	6	9	3	345	1121	
TOTAL, . . .	16	26	29	59	55	89	85	79	102	124	102	87	69	59	43	35	25	17	10	1121		



proportion of the operative class being located in old and ill-ventilated, or new and ill-drained tenements, will indicate sufficiently a high predisposition to dysenteric outbreaks.

The epidemic appeared chiefly among the poorer classes, and included a considerable variety of forms, as cases of pure diarrhœa; of English cholera: a form closely resembling the Indian malady; pure inflammatory dysentery; a typhoid type of the same; a chronic irritative form, with little constitutional disturbance, and seemingly uninfluenced by any mode of treatment, yet eventually yielding; modifications characterized by relapses; by great gastric irritability; by retention of alvine excretions; by much hemorrhage; by cerebral disturbance; and lastly, as a complication of continued fever. The prevalent type appeared to be the sthenic or inflammatory; and the few post-mortem examinations recorded distinctly indicated this form.

The returns from Belfast embrace the experience of four hospital physicians, six dispensary attendants, six private physicians, and eight general practitioners.

The city of Londonderry ranks next to Belfast in population, which amounted to 19,888 in 1851. Replies were received from Dr. William Browne and Dr. Barnewall White, the latter, physician to the Fever Hospital and Workhouse. Both concur in stating the absence of dysentery as an epidemic. Dr. White mentions having had but 20 cases of the ordinary dysentery in hospital practice; that the mortality was about 1 in 4, and the disease more under the control of remedies than in previous years. Londonderry, though, like Belfast, a maritime city, is considerably elevated, being situated on a hill 119 feet above high water, thus possessing great comparative advantages in the important matter of drainage.

Newry, containing 13,491 inhabitants, was represented in this inquiry by Dr. Morrison, Physician to the Fever Hospital and Dispensary; Dr. Erskine; Dr. Charles Molloy, Medical Officer of Newry and Crowban Dispensary; Dr. William Starkey; and Dr. W. A. Davis, Physician to the Newry Union Fever Hospital and Workhouse. Returns and cases are furnished by three of these gentlemen. We may, therefore, presume that by them the disease was considered to prevail in an epidemic form; at the same time it is proper to mention that the experience of Drs. Erskine and Davis led them to report not merely an absence of the epidemic in 1852, but a singular immunity from epidemic diseases in general for some years past. Most of the cases in this locality were of the sthenic inflammatory type. A large portion of this town is extremely

low in situation, and lies on the banks of the Newry Water and Canal.

Armagh (9306 inhabitants) is situated on the declivity of a lofty eminence, around the base of which runs the river Callan, a tributary to the Blackwater. Returns were received from Dr. Thomas Cuming, Physician to the Lunatic Asylum; Dr. Alexander Robinson, Surgeon to the County Infirmary and Gaol; Dr. J. L. Riggs, Medical Officer to the Union Hospital; Mr. J. Leslie, Surgeon to the Union Dispensary; and Messrs. M. and J. Armstrong, General Practitioners. Drs. Robinson and Riggs report as to the existence only of the usual autumnal diarrhoea; and the other gentlemen concur in the opinion that it was not epidemic. The dispensary practice of Surgeon Leslie supplied him with only 14 cases from June to November last, and these generally of the milder forms. Dr. Cuming also saw but little of the disease. His experience, however, of 5 cases favours the idea of the inflammatory character as the type observed.

From Newtownards (9567 inhabitants) we have received a return from Dr. David Jamieson, Surgeon to the Union Hospital. This town is situated on Strangford Lough, at its northern extremity, and is very level, but surrounded with hills. The disease appears to have been here moderately epidemic, and of the sub-acute and typhoid varieties.

From Lisburn (6569 inhabitants) we received returns from Dr. J. Campbell, Physician to the Fever and Union Hospitals; Dr. Kelso, to the Dispensary; and Surgeon M'Harg, General Practitioner. The disease was here decidedly epidemic. In many instances choleric symptoms ushered in the malady, which, in this form, was unusually severe, and resisted ordinary treatment. The other cases presented nothing peculiar. This town, though situated on the river Lagan, is for the most part considerably elevated, but in the neglected condition of its inferior lanes and courts there are abundant anti-sanitary influences at work to foster epidemic disease. Of late years its Board of Health has been obliged to confess its many short-comings in a sanitary point of view.

Dr. William Black, of Ballymena (6136 inhabitants), reports that those cases of dysentery that he was called upon to treat presented the usual symptoms, and yielded to ordinary treatment. The disease was of a mild character, and in extent could not be said to have been at all epidemic. The town is considerably elevated, situate on the small river Braid, a tributary to the Mayne Water, and its sanitary condition above the usual character.



Dr. John West, R. N.; Messrs. Adam Nixon, Surgeon to the Union Dispensary; and J. Kiernan, of Enniskillen, concur in stating the non-appearance of the epidemic in this locality. Mr. Nixon states that dysentery has not been epidemic since the famine in 1847 and 1848, and that he has not seen or heard of more than 6 cases in that district in the interval from April to November last. This town, containing 6796 inhabitants, is situate on an island in Lough Erne at its narrowest part. The greater portion is elevated at least 100 feet above the water's edge, and in other respects its general plan and construction are conducive to a high state of the public health.

From Coleraine, we received replies from Dr. T. H. Babington, Physician to the Union Hospital; Dr. J. C. L. Carson; Dr. D. M'Kay; and Messrs. James Barr, A. Neile, and A. C. Clarke; all agreeing in stating the total immunity from the epidemic enjoyed by this town, which contains 5920 inhabitants, and is situate on the east bank of the Bann, three miles from the sea.

A similar report was received from Mr. Hamilton, Strabane (5097 inhabitants), which is situate on the river Morne, a tributary of the Foyle.

Dr. J. Gilbert, of Lurgan (4211 inhabitants), reported the existence of the epidemic, which assumed an asthenic type, and in some cases approached the malignancy of cholera. This town is within a short distance of Lough Neagh, upon a slightly elevated surface.

From Downpatrick (4098 inhabitants) Surgeon P. E. Brabazon, Medical Attendant of the County Gaol, Infirmary, and Fever Hospital, writes, that the result of his experience and that of his brethren of the outlying districts, whom he frequently met in consultation, is, that nothing that could be called an epidemic of dysentery prevailed there. During the three autumnal months there were only 4 hospital cases. This town is built on a group of little hills on the shore of Strangford Lough, at its southern extremity.

Replies, referring to the disease at Carrickfergus (3543 inhabitants), were received from Dr. J. M'Gowan, late Physician to the County Gaol; Dr. Stewart; and Dr. G. Forsythe, Surgeon to the Union Dispensary. It appears that there were numerous cases of diarrhœa and the English cholera in this locality, but of dysentery very few. This ancient city is situated on a gentle slope of the northern margin of Belfast Lough.

Dr. William Temple, Medical Attendant to the Union Workhouse and Dispensary at Monaghan (3484 inhabitants),

reports the non-appearance of the epidemic in his neighbourhood. With the exception of the Ulster Canal, which passes close by the town, this locality is far removed from any considerable stream, and the country about possesses rather a hilly character.

Mr. Malcomson, Surgeon to the Union Hospital, Banbridge (3801 inhabitants); Dr. R. M'Clelland; and Dr. N. Brownlow, forwarded replies, which show that this neighbourhood was entirely exempt. Dr. M'Clelland, indeed, states that epidemics of any kind are rare, and that when cholera was coasting all around in its last visitation, there was not a single case in this locality. A case mentioned by Dr. Brownlow he distinctly ascribed to specific contagion, originating in Belfast, where the patient had visited immediately prior to the attack. The town is situated upon a considerable declivity on the western bank of the Bann, and possesses great sanitary advantages.

From Cavan (3254 inhabitants) the reports of Dr. George Roe, Surgeon to the County Infirmary and Gaol; Dr. B. Coyne, Surgeon to the Town Dispensary; and Mr. O'Connor, show an immunity from the epidemic. Dr. Roe mentions, that he had not met with any unusual or increased number of cases of dysentery, or even of simple diarrhœa; but, on the contrary, he had fewer cases of the usual autumnal cholera or bowel complaints than he had observed in former years. The greater portion of this town is a dead level, only broken by a rivulet, which intersects it.

Dr. Alexander Bredon, of the Union Dispensary, and Surgeon P. M'Loughlin, have furnished replies in reference to Portadown (3091 inhabitants). There was but little of the disease in this neighbourhood, which lies nearly level on the banks of the Lower Bann.

Dr. Charles Ferris, of the Union Hospital and Dispensary, and Mr. John Cunningham, of Larne (3076 inhabitants), report their attendance upon a considerable number of cases of dysentery in this locality. They resembled the epidemic of 1846-47, and were in general preceded or ushered in by diarrhœa. The town is situated on the flat shore of the Lough of the same name.

Dr. D. H. Charles, of Cookstown (2993 inhabitants), has forwarded replies to the printed queries; from which we may infer, though it is not expressly stated, that the disease was epidemic. This little town is situate near a small river, which cleaves the western shore of Lough Neagh, eight miles distant.



Very little dysentery was observed in the locality of Bangor (2850 inhabitants), according to the testimony of Dr. P. Russell, of the Union Dispensary, and Dr. W. Woods. The cases observed were mild, and yielded to simple treatment. The town is one of our most esteemed watering-places, and is situated on the south side of Belfast Lough.

Dr. W. H. Catherwood, Messrs. Thos. B. Getty, Dispensary, and S. Stewart, of Donaghadee, a seaport town on the north-eastern shore of the county Down, containing 2818 inhabitants, report as to the non-appearance of dysentery in this quarter. A very few cases of mild diarrhoea, which yielded to ordinary treatment, occurred in the practice of these gentlemen.

Ballymoney (2581 inhabitants), situated on an eminence three miles from the river Bann, according to the reports of Dr. William Moore, Surgeon to the Union Dispensary, and Dr. A. Thompson, of the Union Hospital, was not visited by any epidemic. A few mild cases of the disease occurred, which in general presented nothing peculiar.

The neighbourhood of Clones (2333 inhabitants) was also free from the disease, as reported by Dr. J. F. Hoskins, of the Union Hospital.

Mr. Alexander Bruce, and Mr. Thomas M'Comb, Surgeon to the Union Hospital of Antrim (2324 inhabitants), testify to the non-appearance of the epidemic in this town and neighbourhood.

The town of Portaferry (2074 inhabitants), situate on the south-eastern bank of Strangford Lough, furnished a very few cases to Dr. A. B. Filson, of the Union Dispensary there.

Mr. W. W. Thetford, Surgeon to the Strangford Dispensary, forwarded replies. His cases were generally mild, and not numerous. The town is situate west of the entrance to the Lough of the same name.

Dr. A. M'Dowel, Dr. J. M'Kee, Dispensary, and Mr. M'Donald, all concur in giving a similar report as to the non-appearance of the epidemic in the neighbourhood of Randalstown. A few cases of a mild character readily yielded to ordinary treatment.

No decided cases of dysentery came under the notice of Dr. William Gordon, of Saintfield, Surgeon to the Union Dispensary there.

Mr. R. M'Dowel Barr, Surgeon to the Maghera Dispensary, met with a number of cases, and has furnished systematic replies.

Mr. C. J. Anderson, of the Kilkeel Dispensary, had not a single case.

Mr. Bryce Blair, of the Coagh Dispensary, noticed the epidemic, and has reported accordingly.

Dr. J. M'Mechan, of the Whitehouse Dispensary, states, that bowel complaints of the three species, namely, dysentery, diarrhœa, and English cholera, were prevalent in his district during the months of August, September, and October; the cases of dysentery did not, however, exceed 20 in number, and, generally speaking, were not of a formidable character.

No case presented itself to Mr. J. S. Dickson, of the Ballygomartin District, Belfast.

Dr. T. Playne, of the Dunmurry Dispensary, has furnished replies, and speaks of the disease as being epidemic in his district.

Dr. R. A. Little, of the County Donegal Infirmary, Lifford, and several of his brethren in this county, met with but few cases, which readily yielded to ordinary treatment.

Mr. F. E. Hall, Surgeon to the Toome Dispensary, had only 2 cases of the disease in his district, and 1 of these originated in Belfast.

Dr. Young, of Holywood, treated nearly 100 cases of the disease, which he observed under three forms,—the bilious, the acute or inflammatory, and the hemorrhagic. This village is a watering-place, within four miles of Belfast.

Mr. R. H. Gordon, of Castledawson, Surgeon to the Belaghy Dispensary, has not met with epidemic dysentery in his circuit for the last two years.

Dr. George Croker, of the Hillsborough Dispensary, reports having observed cases which assumed the appearance of English cholera, in addition to the simple cases of diarrhœa and the ordinary dysentery.

At Grey Abbey, the epidemic, Mr. S. W. Shaw, Dispensary Attendant, writes, has been of a mild type, and presented nothing unusual, whilst the ordinary treatment was, with a single exception, uniformly successful.

The cases of dysentery were few at Dundonald, the simple diarrhœa of the season having been much more general. Dr. M'Minn and Mr. Quee reported on this district.

Mr. J. Leeper, Surgeon to the Keady Dispensary, had not a single case.

Dr. William Scott, of Aughnacloy Hospital and Dispensary, makes a similar report; as also Mr. J. Robinson, of the Ballybay, and Dr. E. Copeland, of the Lisbellaw, and Dr. W. Irwin, of the Castleblayney, Dispensaries.



Dr. Thomas Martin, Medical Attendant of the Blackwater-town Dispensary, reports that he treated about 200 cases of the epidemic in that neighbourhood; they were generally of the inflammatory type, frequently verging into the nervous form, but never so much as to cause change of treatment.

Dr. R. Crothers and Mr. P. King concur in asserting the non-appearance of the epidemic at Moy; but a few cases attended by the latter gentleman were chiefly of the sthenic form.

No replies were received from the districts of Ballyclare and Ballycastle, county Antrim; Dungannon, county Tyrone; Comber, county Down; and Lowtherstown, county Fermanagh; whence it may be presumed that these localities were exempt from the visitation.

From an analysis of the information now detailed, it would appear that in the county of Antrim, 8 out of 11 localities reported presented more or less of the epidemic; 4 out of 6 in the county of Derry; 2 out of 4 in Tyrone; 12 out of 14 in the county of Down; and 5 out of 6 in the county of Armagh. The north-eastern portion of Ulster, therefore, by far the most populous, and especially the neighbourhood of Belfast, seemed to have concentrated the forces of the malady.

We shall now consider the bearing of the replies furnished to the queries, which elicit the prevailing opinions of the practitioners of Ulster, upon the nature and treatment of this epidemic.

I. The first question on which information was requested refers to Etiology, and individual experience is made the basis of the answers. Upon this point we received replies from 40 practitioners: 30 of whom ascribed the appearance of the malady to variations in the weather, as, for example, the usual change of seasons, sudden vicissitudes, exposure to cold and humidity, a very high temperature, a long-continued drought, the influence of heat and moisture, or a high temperature immediately succeeding a period of cold and humidity. How far this element of the state of the weather entered into the causation in the instance of Belfast may be elicited by a contemplation of the following Table, extracted from the Meteorological Returns, regularly preserved at Queen's College.

TABLE II.

*The Monthly Averages of the Readings of the Thermometer and Rain Gauge for the Year ending February, 1853, at Belfast.*

YEAR.	MONTH.	MEAN.	MAX.	MIN.	RAIN.
					Inches.
1852.	March, . . . . .	42°.2	47°.3	38°.5	1.100
"	April, . . . . .	47.4	54.1	40.3	2.260
"	May, . . . . .	52.4	59.1	46.0	1.714
"	June, . . . . .	55.8	61.3	49.3	4.645
"	July, . . . . .	62.2	70.1	55.8	2.391
"	August, . . . . .	60.5	67.1	52.4	4.025
"	September, . . . . .	53.8	59.1	47.1	1.044
"	October, . . . . .	46.7	51.2	40.9	1.514
"	November, . . . . .	42.4	47.9	37.6	6.010
"	December, . . . . .	43.3	47.5	37.0	7.109
1853.	January, . . . . .	35.2	43.8	33.5	5.103
"	February, . . . . .	35.8	40.1	31.7	1.760

There is certainly a striking coincidence of the hot and comparatively dry weather of the month of September, and the maximum number of cases of the disease (*see* Table I.) June was the wettest month of all the eight preceding November. The following July had the highest temperature, and it is well known that a sequence of this character is eminently calculated to render the atmosphere in the highest degree impure, and this period exactly corresponds to the commencement of the epidemic in this locality. The existence of this influence may therefore be said to be undoubted, but its comparative power has not been estimated.

In twenty-five replies, the influence of change of diet, immoderate use of sub-acid fruits and fresh vegetables, adulterations of food, poor and innutritious aliments, excesses, the drinking of cold liquids when the body is heated, and bad water, are recognised as a principal cause. Looking at the matter in the abstract, this is a much more likely element in the causation of dysentery than changes in temperature or other atmospheric vicissitudes. The direct interference with the latter stages of the process of digestion, which anything of an irritating quality in the ingesta must produce, is readily appreciable as a powerful agent, and has always been considered by systematic authors as sufficiently effective. Dr. Carpenter<sup>a</sup>

<sup>a</sup> Human Physiology, Fourth Edition, 1853.



thinks it probable that many of "the bilious attacks which in this country are so frequent in early autumn, and which are commonly set down to the account of fruit (although the subjects of them have often abstained entirely from that article), are really the result of the presence of an excess of hydro-carbonaceous matter in the system, consequent upon over-feeding during the summer, and must be looked on as the natural means by which it is got rid of." A few practitioners refer to the retention of alvine excretions in the cells of the colon as a direct cause of irritation. Such cases were with difficulty distinguished in the first instance from the ordinary forms; and their true nature was only disclosed upon the appearance of scybalæ. In two reports an excessive use of potatoes is mentioned as a cause. This diet certainly acts injuriously on the intestinal tract, under two very different conditions: viz., when used early, and when in a partially diseased state. The influence of contaminated water, used as an article of food, in producing dysentery, has long been observed, more particularly by army surgeons. It is a cause, however, the action of which is not limited to any particular season.

Thirteen answers acknowledge the influence of some peculiar change in the atmosphere akin to Sydenham's "epidemic constitution" as a prevailing cause. It is, however, only a convenient form of expression, to indicate that we are ignorant of any definite, tangible influence; and especially when the propagation of an epidemic cannot be ascribed to contagion we know nothing of that peculiar atmospheric state which is supposed to originate the pure epidemics.—A more rational view of the mode of action of the atmospheric cause is taken by thirteen practitioners, who believe that the contamination of the air is due to sanitary influences. Dysentery and diarrhœa are acknowledged to be the forms of disease most frequently met with in localities distinguished by accumulations of decomposing animal and vegetable remains; and more especially is this the case during a season of drought immediately succeeding a period of wet. This we found to have occurred in Belfast, where sanitary causes of disease abound.—One answer alludes to the influence of gaol discipline, which certainly may act injuriously, either by the close confinement and deterioration of the air, or by insufficient variety of food.—Two practitioners are disposed to think the appellation of *endemic* a more suitable term, in the same way as we would refer to the yellow fever of New Orleans for an example; thus, in the in-

stance of Belfast, dysentery, according to the testimony of an old practitioner has prevailed less or more in the autumnal season during the last twenty-six years.

Intemperance is considered an element in causation in five replies. This corresponds to the well-known fact noticed during the Indian cholera visitations, when those addicted to alcoholic diet were invariably among the first seized. That this, however, on the late occasion, exercised but a very limited influence, may be shown from the circumstance, that of 35 reported cases of the dysentery epidemic, only 7 are stated to have been intemperate; and in 9 fatal cases, only two were of this class.

Purgative medicines are noticed as a cause in the practice of two physicians. Every practitioner of experience is aware that the inordinate use or consumption of this class of drugs is exceedingly prevalent, and even by the better classes of the community. And indeed the great sale of patent and proprietary medicines advertised for this purpose is quite sufficient to prove the fact: and as these are taken without the slightest discrimination, and under the most dissimilar circumstances, it is only surprising that the effect referred to is not more frequently produced.

The influence of contagion is only alluded to by two practitioners, which is strange, when we consider how nearly balanced are the authorities upon the subject. It is more than probable, however, that Dr. Harty's view of contagion is the correct interpretation of the differences on this topic. In the instances referred to in the replies, the patients, it was supposed, had received the infection in Belfast, and carried it with them to the country.

Judging from the combined experience elicited as to the causation of the late epidemic, it would appear that the prevailing influence was a combination of sanitary, dietetic, and meteorological agencies, culminating at a period of the year most conducive to the development of diseases of the digestive organs.

Our *second* query was intended to ascertain *the prevailing types or forms* of the epidemic. Thirty-nine practitioners furnished replies. The acute, inflammatory, and sthenic type was observed as principal by sixteen; the typhoid and asthenic forms by twelve; and the choleric by six. These were the chief. Other modifications were noticed only by a very few, viz., cases characterized by the presence of scybalæ, by a peculiar fatty discharge, resembling the evacuations in pancreatic



disease; by inordinate hemorrhage; by chronicity, with relapses; by the co-existence of specific fever; by uncontrollable gastric irritation; by gangrenous evacuations; by great prostration; by cerebral disturbance; and by dysuria and suppression of urine.

In some cases, eventually fatal, the pulse, till nearly the close, indicated nothing serious *per se*. In others, likewise fatal, the stools, under the influence of mercury, became bilious, and even apparently normal a few days before death. Again, it was observed that mercurialization did not prevent a fatal issue. Tenderness of the abdomen, which was noticed in most cases, especially along the colon tract, was quite absent in other cases, which eventually became severe. A number commenced exactly as an attack of English cholera, and eventuated in pure dysentery. Some cases yielded at once to large opiates; others defied a varied host of medicines, and yet recovered as if the disease wore out; others presented the identical symptoms of the Indian dysentery; and, in addition, there were very many cases in all the localities which suffered, to which the appellation of diarrhœa was alone applicable. In one of these the diarrhœa was associated with hepatic suppuration. A review of the recoveries shows that the most alarming symptoms yielded in a few days to appropriate treatment, while others, seemingly not nearly so severe, are to be found among the cases in the fatal list.

The forms of dysentery just mentioned are not to be taken as at all indicating the nature of the disease; they merely present us with a view of the principal combinations of symptoms which were met with in actual practice. The reply to the *third* query will impart this information.

“What *pathological results* would you infer from the post-mortem examinations which you instituted?” To this query very few answers were forwarded; the simple reason assigned being, that exceedingly rarely were such examinations permitted. The few replies given concur, however, in stating, that inflammation of the mucous membrane of the large intestines is always present to a greater or less extent, and exhibited in various degrees, from the most superficial follicular congestion to perforation of the bowels. The earliest stages will thus include what may be termed the “catarrhal form,” characterized by altered, increased, tenacious, and coloured mucus. A higher degree will be distinguished by thickening and exudation of lymph, both in the submucous tissue and on the free surface of the mucous membrane, which might be termed a croupous variety. This lesion will be characterized by the severest termina

and tenesmus, and by the supervention of typhoid symptoms. A still more advanced stage is represented by ulceration, either follicular or in scattered patches, with implication of the deeper layers of the bowel. Here confirmed typhoid symptoms arise, and the majority of the cases succumb, with frequent derangement of the urinary organs, and the supervention of cerebral symptoms. It is in this condition that the evacuations present a putrid appearance and a gangrenous odour, with hemorrhagic discharge. Though we do not possess confirmatory evidence, it is quite possible, judging from analogy, that there may be in addition a form of ataxic dysentery, characterized by ulceration or gangrene, occurring independently of true inflammation; in such circumstances the disease is an animal poison, and the blood is properly its seat, and must become the centre of our remedial means; but with this exception, and remembering that dysentery must not be confounded with diarrhœa or cholera, melæna or purpura, or rectal disease, the inflammatory condition is quite adequate to the interpretation of all the phases, types, forms, or modifications, detailed by symptomatologists."

The *fourth* query: "What *symptoms*, in the course of the disease, did you observe *prognostic of a fatal termination?*" received twenty-two replies, which may be conveniently arranged in divisions according to the different systems, or general state involved.—Thus the indications of danger, referrible to the condition of the nervous system, include delirium, stupor, total indifference, and profound oppression; refusal of nourishment, mental depression and anxiety; subsultus tendinum, extreme restlessness, and intense distress; dysphagia, hiccup, and involuntary evacuations.—The impression upon the circulation was indicated by the rising of the pulse, sometimes sudden, sometimes "creeping up," as it is termed, by becoming small and quick, and occasionally irregular, and characterized by a peculiar click, which one report notices as strikingly significant, and by a leaden or dusky hue of the skin.—The symptoms referrible to the digestive tract were, a red, glazed, or brown and dry chapped tongue, with sordes on the teeth, constant vomiting, tympany, and excessive tenderness of the abdomen, or a doughy sensation on palpation, fearful tormina, with persistent bloody evacuations, and shreds of lymph, the passing of dark-red fluid blood, at other times a gruel-like discharge; absence of bile and fæces, though the rule was by no means constant, a gangrenous odour of the evacuations—almost universal in the fatal cases; dark-coloured and scanty urine, with occasional suppression and retention, and a clammy, cold, or shrivelled loose



skin—frequently observed at the closing periods. The general appearance of the cases about to succumb presented the hippocratic countenance or the choleroïd collapse, rapid emaciation, profound prostration, and a cadaveric exhalation.

It must be observed, however, that scarcely one of these symptoms, though indicative of a certain amount of danger, is necessarily the presage of a fatal issue. When, however, a number co-exist, more particularly those referring to the nervous system, the prognosis assumes a high degree of certainty.

We deemed it a matter of importance to endeavour to ascertain whether there were any positive *appearances in the alvine evacuations peculiar to the fatal cases*. The *fifth* query was issued with this view. Twenty-one replies were received, which, when analyzed, rather present us with negative results. The great majority consider the persistence of blood and mucus, with shreds in a state of semi-putridity, as the chief condition observed; this, however, is by no means peculiar to the fatal cases; while, besides, cases are referred to and reported in which the evacuations were bilious or fæcal, or presented no marked change. Among the modifications of the stools observed were—small quantities of straw-coloured serum; matters like tar; dark fluid, having a peculiar fleshy smell, with something like flakes of lymph floating; stools like meconium, mixed with blood, and particularly fetid; and thin, bloody putrid excretions passing away involuntarily. It sometimes happened that the evacuations, which at one time were characteristic, became some days before the close so very much improved as to lead the practitioner to hold out some hopes of recovery. Viewing the entire returns upon this point as a whole, we can only say, that the darkening and putridity of the evacuations are more to be depended upon than any other single variation as indicative of extreme danger, but that none is of sufficient semeiological importance to be implicitly relied upon.

The *sixth* query:—“Under what circumstances did you notice *suppression of urine*?” received thirty-one replies. Twenty of these affirmed its positive existence in cases observed; six mention frequent diminution; four notice retention, requiring the use of the catheter; eight practitioners never observed it in a single instance, while one<sup>a</sup> of the latter refers to a very aggravated case of dysentery in which an enormous quantity of urine was passed. Suppression was observed under very different circumstances, viz., in the case of a lady five days after

<sup>a</sup> Dr. Kelso, Lisburn.

her confinement; generally in cases attended with profuse perspiration; after long continuance of alvine discharges; sometimes throughout from the first or second day; in fatal cases; more or less in every case when the stools were thin and serous; in the sthenic, inflammatory cases, and when opium alone had been given freely; in cases marked by low fever, during the early stages only; about three or four days after the disease became established, and when the fever was at its height; very frequently in debilitated patients; and in one where the liver was enlarged. Retention was observed in one case at the outset, where inflammatory symptoms ran high; in others, frequently from irritation, and where it was suspected that the peritoneal covering of the bladder was inflamed.

Simple diminution of the secretion was noticed in all cases in the majority of replies.

The discrepancy observed in these answers respecting the existence of suppression of urine, may be probably explained if we suppose that a difference of meaning was attached to the term by those who respectively denied and affirmed its presence. It is very likely that the eight practitioners who asserted that they had never seen a single instance understood the expression, in its strictest acceptation, as representing a stoppage of the secretion, while the others considered that the term merely signified a certain degree of diminution in quantity, that is, of partial suppression.

The *seventh* query was intended to elicit information as to the *changes which the tongue presented* in the progress of the disease, and the *indications*, if any, which these afforded.

Twenty-eight replies were received. Eighteen of these notice the change from the usual febrile to the dry, brown, typhoid fur; several, the moist, loaded tongue, and the white centre, with the red edge, and the clean, glazed appearance. As to the indications, a broad expanded tongue was favourable; the red fiery tip and edge, and the dry, red, and unnaturally clean surface (the organ resembling a piece of red meat half-dried) indicated inflammation; a deeply-coated foul tongue was observed in the case of retained fæces; the white and flabby condition was noticed in asthenic cases, with serous diarrhœa; the early drying of the tongue almost to a certainty indicated a high degree of inflammation, while the gradual darkening of the surface, especially the dark brown crust at the root, and an onion-skin appearance, denoted extreme danger. The prevailing forms were, therefore, of three characters, viz., the usual febrile fur, the browning or darkening centre, and the red



tongue, either at the tip, with erect papillæ, or the edges, on the entire surface, all indicative of a series of grades of severity.

The *eighth* query was answered by thirty-six practitioners. This was intended to ascertain how far *the presence of bile* in the stools was *a favourable indication*. The general answer was, that it was always so; but seventeen replies included conditions: for example, by one it is considered unfavourable in excess; by another, in most cases desirable, but did not warrant the pronouncing a decidedly favourable prognosis; sometimes only, not always, as it has been observed in some fatal cases; or that cases which presented bile largely at first, were often attacked secondarily.

These limitations it is important to be aware of, though there can be no doubt of the accuracy of the general answer.

*Cerebral symptoms* have been occasionally noticed in severe cases of dysentery. The *ninth* query was intended to elicit information as to the frequency with which, and the circumstances under which they were observed. Of thirty-three replies, in only five is it stated that these symptoms were not observed; hence the great preponderance as to their frequent appearance, which, however, occurred under very various conditions. Thus, in a large number of observations, it was limited to the close. A few noticed them in the early stage, and in all acute cases when fever was high. Others, after a long continuance of the disease, or only when the alvine evacuations were frequent and copious; and others in typhoid and hemorrhagic cases, or when suppression of urine supervened; and a number attributed their occurrence to intemperate habits of the patients, to the excessive use of astringents, and more especially of opium.

Delirium appears to have been almost constant in the fatal cases; but though some reports deemed it premonitory of a rapidly fatal issue, it not unfrequently occurred in the recoveries, particularly in the acute forms. One practitioner observed the cerebral symptoms closely resembling those of apoplexy, while another noticed the tendency in the severer forms, but conceived it a symptom of no moment; while in a third reply it is mentioned as rare after the sixth day, whether the result was fatal or otherwise.

The mode of treatment, and the principal remedies found most generally beneficial, constituted the subject of the *tenth* query, to which we received forty-nine replies. Forty-six practitioners rely upon the use of opium,—for the most part,

however, in combination,—a very few, indeed, depending on its individual power. Thirty-four adopt some form of mercurial, thirty-two in combination with opium; and twenty-eight used some form of astringent. Twenty recommend the use of mild aperients; twenty-two the abstraction of blood; and fifteen speak highly of the administration of enemata and the employment of blisters. Of combinations of the different classes of remedies, the majority are in favour of opium with mercury; next, of opium with astringents; opium with occasional aperients; opium with diaphoretics; with blistering; mercurials with astringents, &c.; and in the case of a combination of three classes, the following is the order of supposed efficacy, viz.: opium, mercury, and astringents; opium, astringents, and diaphoretics; opium, mercury, and blistering; opium, mercury, and bleeding; opium, astringents, and blistering.

The general line of treatment which was adopted in the epidemic will be now easily understood; but it will be necessary to examine the replies to the remaining queries ere we can lay down more definite results.

The treatment characterized by more or less *abstraction of blood* consists of bleeding from the arm, leeching at various points of the abdomen, particularly over the region of the sigmoid flexure and in the neighbourhood of the anus. The general bleeding was associated with various other remedies: viz., mercury, opium, diaphoretics, astringents, and counter-irritation; with opiated mercurials to salivation, and blisters; with opiated mercurials and emollient enemata, and castor-oil, repeated at intervals until the bile appeared in the stools; with large doses of opium and large emollient injections; with opiated astringents, and the occasional use of washed sulphur as a purgative<sup>a</sup>; with opiated mercurials and opiate enemata.

The value of depletion as a remedy in the epidemic will be clearly manifest from the following fact:—It appears that the average number of days under treatment of twenty-five fully reported cases of recovery was thirteen; of these, four were bled largely, while the corresponding time was the small average of five days.

*Emetics* were recommended and used by two practitioners: in one instance<sup>b</sup>, followed by mercurials and mild and shielded alkaline purgatives, repeated at intervals until a feculent discharge appeared; and in the other instance, followed by the daily administration of full doses of rhubarb with chalk.

<sup>a</sup> Dr. Starkey, Newry; Dr. T. Martin, Blackwatertown.

<sup>b</sup> Mr. Gelston, Belfast.



*Blistering* was frequently employed over some part of the abdominal wall by several practitioners in the treatment of this epidemic. Dr. Bryce Blair, of Moneymore, in very obstinate cases, with great confidence applied repeated blisters to the lower part of the spine, under the impression that there was some congestion of the spinal veins or membranes. Cantharides was the usual form employed; but in almost all cases a milder form of counter-irritation was premised,—such as sinapisms, hot-water stupes, and turpentine fomentations, stimulant embrocations, and hot cataplasms of linseed meal and bran.

The principal *diaphoretic* used was Dover's powder, which was given in combination with a mercurial, very rarely *per se*. By two practitioners, preparations of antimony were employed with the same view.

Mr. R. M'D. Barr, Maghera, administered, after a purgative, a combination of calomel, antimonial powder, ipecacuanha, and opium, every three hours until it produced decided perspiration, even should it require a period of several days; and Dr. M'Gee, Belfast, has used with success minute doses of the potassio-tartrate of antimony in combination with small quantities of the magnesian sulphate.

A mild farinaceous and astringent *diet* has been constantly enjoined. Dr. Brabazon, of Downpatrick, lays great stress upon the watching and changing of the aliment, which seems, he says, to be of more importance than any medicine. He is in the habit of varying the diet frequently from arrow-root, sago, rice, to boiled bread and milk (about the best of all), or beef-tea thickened by arrow-root; and when convalescence arrives, broiled mutton or chicken, with as little fluid as possible. The popular remedies, old cheese, or mutton-suet boiled in sweet milk, have been found useful in the practice of Dr. J. M'Gowan, Carrickfergus, as also a decoction of logwood.

In general, *stimulants* of the diffusible species were only used on the approach of collapse, or in the decline of the disease, or to meet some incidental phase of symptoms. For example: ammonia and peppermint were found useful in the painful abdominal distention which sometimes remained after the inflammatory symptoms had subsided<sup>a</sup>, and opiates and the bitter tonics were occasionally given, in combination with camphor and alcoholic liquors, especially port wine. As a rule, however, stimulants were proscribed.

The *eleventh* query was intended to elicit opinions as to

<sup>a</sup> Mr. Wales, Belfast.

the use of *mercurial* preparations in this epidemic. Of forty-two replies, twenty-two were favourable under all circumstances, sixteen were only conditionally so; one expressed the belief that they were not required, and three were completely adverse to their employment. Of the twenty-two, only one decidedly recommended the use of mercury to produce salivation. The limitations were various: thus, one practitioner considered mercury only useful when the tongue was dry and brown, and the hepatic secretion prominently deranged; another found it most salutary in chronic cases; a third used none unless certain of organic disease; a fourth considered it highly beneficial in the early stages; a fifth when there was previous constipation; a sixth only used it when the tongue was furred and clammy and the abdomen doughy. On the other hand, the terms used by the unconditional advocates of its use are extremely encouraging, thus:—"We possess no means so safe and efficacious when judiciously given;"—"Without the command of mercury we should not like to undertake the treatment of an important case;"—"The mainstay;"—"Mercury is the means of cure beyond a doubt;"—"invaluable;"—"indispensable," &c. The utility of mercury is, therefore, fully established. Shielded by opium, and used as the only treatment, the average number of days under treatment, in recoveries, was six, which is the shortest period recorded as pertaining to any other treatment except depletion. But mercury to salivation tells a very different tale; for of all the modes of treatment employed in the 26 cases of recovery it was the slowest, while 4 of the 10 fatal cases died under the influence of this remedy. Of forty-one returns, thirty give a decided preference to the gray powder as the *form* employed; twenty recommend calomel, and eighteen the blue pill, and a few used mercurial inunction. The gray powder was most usually given with Dover's powder, and the other forms with the solid opium. Heroic doses were occasionally administered, but, in general, small quantities, frequently repeated, were employed.

A number of practitioners placed the greatest reliance upon what may be termed the *opiate* treatment. Thus, one practitioner designates opium as the *sheet-anchor*, but in practice combined it with the mineral and vegetable astringents, another uses about two grains every three or four hours, and frequently with opiate suppositories and enemata<sup>a</sup>; a third gave three to

<sup>a</sup> Dr. Kelso.



four grains every six or eight hours<sup>a</sup>; and a fourth states, that no medicine seems to produce the slightest amendment in which some preparation of opium did not exist<sup>b</sup>. Some invariably commenced with a full opiate, and afterwards various remedies; a very few seemed to depend on it alone: only one practitioner considered opium injurious in all cases except the chronic; and if else admissible, gave it with a gentle purgative.

Seventeen practitioners report highly of the great utility of *acetate of lead* with opium; twelve others, however, express a want of faith; and two deem it injurious.

This difference of opinion may be readily explained by reflecting that it is more than probable that the remedy has been used by different practitioners under very different states of the intestinal lesion. For example, in the early stage of the inflammatory cases, it cannot be otherwise than injurious; also, in cases marked by retention of the excretions: whereas, when employed in the hemorrhagic forms, or when inflammatory action has been reduced, we may find it, with Dr. W. Moore, Ballymoney, the best astringent we have. With some practitioners the main object would appear to be to arrest the alvine discharge as speedily as possible, apparently without regard to the very natural and rational indication for the removal or counteraction of the irritation which causes the discharge. This observation must suggest itself to any one who has observed the frequent attempts to swell the list of astringents in the treatment of dysentery: their very multitude argues their comparative inefficiency. The following opinions indicate a healthy re-action:—"It is deceptive to attempt the case by the use of astringents;"—"Employs them only in tedious cases;"—"No faith in lead or astringents as such;"—"Has not found astringents useful except in last stage;"—"Lead disappointed;"—"Astringents useless;"—"No confidence in lead;"—"Has not found lead and other astringents to answer expectations;"—"Lead of little use, and apt to produce nausea and vomiting;"—"Has not met with a case requiring astringents, which in the early stage are deadly;"—"Useful only in chronic cases."

In corroboration of the above, we may mention that the average time under the astringent treatment was sixteen days, or about three times longer than that with the mercurials and depletives; while the fatal cases under astringents died in about one-third a shorter time.

<sup>a</sup> Dr. Morrison, Newry.

<sup>b</sup> Dr. Campbell, Lisburn.

Opiate enemata and suppositories have been found, scarcely without exception, highly useful in allaying rectal irritation, and the dysuria which is so frequently attendant upon severe tenesmus. There is, however, considerable difference of opinion as to the efficacy of the other forms used, such as injections of lead and opium, of silver and opium. Dr. W. Moore has found the latter (in the proportion of three grains to the ounce) useful in cases of some duration, particularly when the evacuations were tenacious. Mr. Hanna and Dr. Blair are of the same opinion. The former have been used with success by Dr. Gilbert, Lurgan, and Mr. J. Leslie, Armagh.

The sulphate of copper has been used in the advanced stages by Mr. Hall, of Moneyglass, and Dr. R. Little, Lifford, with some success; while iron, in the form of the muriated tincture, is recommended by Dr. D. Jamieson, Newtownards, and Dr. M'Gowan, Carrickfergus.

The *fourteenth* query refers to the *sulphate of magnesia and laudanum treatment*. This, though generally supposed a novel practice in dysentery, is really not so, but was employed at least thirty years ago. It had, however, fallen into comparative disuse until revived by Dr. T. H. Purdon, Belfast, who strongly recommended it some years since in the pages of the Medical Press. It consists in the administration of minute doses of Epsom salts, with a few drops of laudanum in peppermint water.

An analysis of thirty-five replies shows that by only twelve practitioners was the practice considered in any degree successful, and of these only three are its advocates; eight express a total want of faith in its efficacy; and twelve had no experience of its administration. By two practitioners who usually employed it, it did not answer their expectations in this epidemic.

Among those who used it there seems to have been little data for precise indication. One practitioner has found it invariably ineffectual; another observes that, while in one case it cured the patient, in a second it increased the sickness, tormina, and tenesmus. On the other hand, one advocate used it largely and successfully; another has witnessed the most satisfactory results; a third speaks of it as an excellent remedy. Then, as to the real therapeutic agent in the combination, a difference of opinion exists; one believing that it acts only as an opiate; another, as a mild aperient; while a third refers its virtues to the sulphuric acid. On the whole, it seems to be a mode of treatment of very limited application, adapted most probably to the bilious and catarrhal forms, certainly not at all



appropriate for the acute, inflammatory, or severer types. Dilute sulphuric acid has of late years had a run of success in diarrhœa; and in one of the reports on this epidemic it is highly spoken of when used in combination with carminatives, and strongly recommended as an adjuvant on account of its antiseptic, astringent, anti-hemorrhagic qualities.

The use of *purgatives* in intestinal disorders, though recommended by almost all practitioners, is so beset with indications for limitation, that it was considered an important point to ascertain under what circumstances aperients were used in this epidemic. Of thirty-eight reports received, in only seven were they employed repeatedly and regularly throughout the progress of the disease; in eighteen their use was limited to a certain stage; in one, in cases of children only, in nineteen, according to supposed indications as they occurred; and in three their administration was entirely proscribed. Thus thirteen practitioners recommended them invariably in the early stage, three in convalescence, and two in the chronic forms; eight ordered them when scybalæ were suspected, or when the abdomen felt full and hard; seven in severe tenesmus with loaded tongue: others, after using astringents, or in previous constipation. The most usual aperient employed was castor-oil, shielded by tincture of opium. Dr. Blair used it in combination with turpentine at the very outset. Dr. M'Mechan often found a combination of calomel ( $2\frac{1}{2}$  grs.), magnesia (5 grs.), and rhubarb (15 grs.) answer extremely well. The compound tincture of rhubarb with castor-oil was also a favourite form; and indeed, as a rule, whatever might be the aperient employed, it was almost always combined with some species of sedative.

An *alkaline treatment*, such as was advocated by Mr. Kelly, Mullingar, some years ago<sup>a</sup>, is strongly recommended by Dr. Martin, Blackwatertown, who treated about 200 cases. The plan which he ultimately adopted consisted simply in emetics of ipecacuanha in the first instance, followed by daily full doses of rhubarb with chalk; the latter to the extent of two drachms *per diem*; and in his hands it was eminently successful. After the first stage, or in chronic cases, in which flatulence was usually a distressing symptom, he substituted the compound chalk powder for the simple powder; during convalescence he administered bitters with an alkali; calomel he occasionally used in obstinate cases to increase the purgative properties of the remedies employed.

<sup>a</sup> See our Fifth Volume, N. S., p. 268.

The special reports we received on the epidemic shall next be given.

I. By Dr. T. H. Purdon, Belfast :

“ As far as I know, the plan of salts and laudanum treatment was original, or a combination of ideas, which I even now remember. It is in fact a modification of different modes of treatment which I found suit the terrible epidemic we had some years ago (1846-7). Not wishing at the time to ‘ rush into print,’ no mention was made of it until I had tried it fairly at the County Gaol, where it was first used. All the cases yielded to it that year. I need scarcely say, from my observation of epidemics, I did not expect it to succeed so well another time ; neither has it on the whole proved so uniformly successful, notwithstanding it still turns out the most generally useful plan there. We are scarcely ever without some cases, and this last year I have found that by blistering over the sigmoid flexure along with salines and attention to diet *immediately* a man complains, he soon gets quite well. No astringents I have tried at the Gaol appear to be of almost the slightest service. I have used them *freely*. We have had no cases, I may say, for a month ; but ever since the epidemic I believe I have only noticed two or three times that we were free. In several cases *I* am satisfied it was excited by contagion. What would it have been had the patients not been separated ? The formula is : Ten grains of sulphate of magnesia, five drops of laudanum, and a table-spoonful of peppermint water three times in the day. This I found especially useful when there was a large quantity of blood evacuated, also in ‘ ochreous stools.’ ”

II. By Dr. Thomas Thompson, R. N., Consulting Physician, General Hospital, Belfast :—

“ When I arrived in Belfast from the West Indies, in the beginning of August, 1826, I found dysentery prevailing to a much greater extent, and in a more malignant form, than I had ever seen in this or any other country, and it returned equally malignantly and extensively in the autumn of 1827.

“ The particular season of the year indicates the cause, especially among the working classes, viz., green and fresh fruits and vegetables, &c., &c.,—so commonly known that it is useless to say more on this head ; but I think a very high range of temperature during the autumn in this locality would add greatly to the spread and malignancy of the disease.

“ The summers and autumns of 1826 and 1827 were extremely hot. When I arrived in London in July, 1826, the thermometer stood six degrees higher than at Jamaica, when I left it, two months prior to that date, and several of our sailors dropped down dead from *coup de soleil* in Plymouth dockyard, when at work, on our arrival there. To this cause, therefore, I attributed its prevalence in Belfast at that time.



“In the treatment of dysentery I have been in the habit of prescribing the following medicines, not only on this recent occasion, but I may say during the last thirty years, viz. : opium, ipecacuan, calomel, mercury with chalk, and Dover’s powder, sometimes separately, at other times in combination; the chalk mixture, too, with tincture of catechu and tincture of opium, and occasional doses of castor-oil, with or without laudanum, as symptoms indicated the advantage of using one or both. Of course, many other remedies, too numerous to be named, have been in use, but those above mentioned are the principal.”

III. By Mr. Wales, Belfast. Mr. Wales, who has been in general practice since 1848, attended 28 cases of the epidemic (of which one alone was fatal); in all the others recovery was slow. His plan of treatment has been, and still is, first to empty the bowels effectually by either castor-oil or calomel, with the addition sometimes of large injections of tepid linseed tea; this is followed by calomel and Dover’s powder. Having produced the mercurial effect, he sustains it slightly throughout the disease; and if there are then no inflammatory symptoms, he begins with astringents. Where the evacuations are profuse and bloody, he uses acetate of lead and opium; when the blood does not predominate, he prefers a combination of kino, alum, and opium. Of the entire class of astringent medicines and their combinations, he prefers the above-named. He says:—

“When the least abdominal tenderness prevails I am rather afraid of astringents, except opium and acetate of lead, neither of which, in my opinion, will do harm under any circumstances. In all cases I give occasional aperients, such as castor-oil and rhubarb, or, when oil is objectionable, as it generally is in bilious habits, I substitute calomel. I may further state, that I almost invariably blister the abdomen at the commencement of the disease, and afterwards apply warm moist bran. I have found this very serviceable in relieving pain, especially that experienced in micturition: barm injections afford much relief when the rectum is greatly irritated. As regards opium, I think it is almost indispensable, but I am inclined to look on it principally as a palliative remedy. In my mind, mercury is the means of cure beyond a doubt. As for Epsom salts and laudanum, I have found the combination useful, but I have tried the laudanum separately and found it as effective. I have seen severe head symptoms produced by opium, in consequence of which I have lately substituted hyoscyamus on the least approach of cerebral disturbance.”

IV. By Mr. Gelston, Belfast:—

“The character of the attack in this epidemic was varied: in the young, and adults of a healthy constitution, it was usually sud-

den in its formation, and the accompanying fever inflammatory; in the older or debilitated habits the typhoid type prevailed. In one situation, near a brick-field, the affection appeared to be contagious. An elderly woman became ill and died: the room was whitewashed, and another family entered upon occupation; the father was soon after attacked, and two individuals in the same house but in another apartment, and soon after a father and child next door.

“The causes appeared to me to be the use of bad water, a potato diet, and low, damp, and filthy localities. My treatment consisted in the administration of mild emetics; large doses of mercurials: to an adult—calomel, ten grains, and gray powder, half a drachm, or singly, one drachm, and Dover’s powder, six grains; followed by rhubarb, half a drachm, Rochelle salts, two drachms, and repeated until the bowels became free and the stools feculent. Sometimes a draught of castor-oil, rhubarb tincture, and laudanum, was substituted for the latter. Whenever the bile appeared in the evacuations, the case generally progressed to a favourable termination. Astringents were seldom required; and of these, bark and rhubarb tinctures, slightly opiated, sufficed. In low typhoid cases, mercurials in smaller doses, with ipecacuan frequently repeated, saline drinks, Mindererus’ and ammonia spirit, were my principal remedies; but in addition I found turpentine stupes, and small opiate enemata, of much value. On the whole, I consider the purgative mode most efficacious when preceded by a full dose of mercury; and of purgatives I conceive rhubarb, with some saline aperient, to be more especially beneficial. In protracted cases I have used with advantage tannin with a decoction of logwood.”

#### V. By Dr. M’Gowan, Carrickfergus:—

“My experience of dysentery leads me to consider that opium is the sheet anchor in the treatment, and of this I gave one grain, and in several cases one grain and a half, with kino, three grains, or opium with gallic acid, or with acetate of lead, two grains, every three hours until the bowels became restrained; at the same time a table-spoonful of chalk mixture, with catechu and opium tinctures, about an hour and a half after each pill. When tenesmus continued, after the motions had been restrained, I ordered opiate enemata, and when these were not retained, a suppository of four or five grains of opium; with these I ordered some popular remedies, as old cheese or mutton suet boiled in milk, or a decoction of logwood in milk. In obstinate cases I have tried, on failure of other remedies, the tincture of the muriate of iron. A favourite medicine with me was Dover’s powder, given so as to excite diaphoresis. Mercurials, such as the blue pill and calomel with opium, I have also tried. I recollect asking the late Drs. M’Donnell and Thompson, of Belfast, as to their experience of dysentery, and they both agreed that opium was the medicine most deserving of reliance.”



## VI. By Dr. M'Mechan, of Whitehouse Dispensary :—

“As to etiology, I shall only mention the coincidence, that during the months of August, September, and October, when the epidemic prevailed here, an unusually small quantity of rain fell.

“With regard to treatment (Qu. 10), I have found mild aperient and anodyne remedies generally beneficial. (Qus. 11 and 12.)—I have often found mercurial preparations useful. I sometimes give calomel in a ten-grain dose, with two grains of opium, with speedy and satisfactory result: in more chronic cases, I give repeated small doses of calomel or mercury, with chalk combined with opium, with much advantage.

“(13). I have experienced the best effects from full doses of opium—say two grains every six hours—in recent acute cases, and have even repeated the dose more frequently in urgent circumstances. I am not so fond of astringents, but often employ them with good effect in tedious cases. I look upon opiate enemata as almost indispensable for the relief of tenesmus. I feel bound to speak gratefully of the effects of dilute sulphuric acid combined with carminatives, and strongly recommend it as an adjuvant worthy of confidence on account of its antiseptic as well as its mild astringent and anti-hemorrhagic qualities.

“(14). I have also witnessed very satisfactory results from the use of sulphate of magnesia with laudanum, as first brought under my notice by Dr. Purdon.

“(15). I would give a purgative either very early in an attack of dysentery, or in a later stage, when I had good reason to suspect that scybalæ existed, were causing irritation, and might thereby be probably expelled. For this particular purpose I have often found a combination of calomel, magnesia, and rhubarb, to answer extremely well; and every one has in such circumstances witnessed the good effects of castor-oil with laudanum.”

## VII. By Mr. J. Cunningham, of Larne:

“So far as my experience of the prevailing epidemic is concerned, I have found the administration of two grains of calomel and one of opium, repeated at intervals of three hours, when required, invariably successful. In ordinary cases I have been able to arrest the further progress of symptoms by a mixture of absorbents and antacids, with two or three drops of laudanum to each dose, given after every liquid motion. Conjointly with these remedies I have applied flannels wrung out of very hot water, and liberally sprinkled with turpentine, over the abdomen.”

## VIII. By Mr. Ferris, of Larne Dispensary :—

“Although we have had a number of cases of dysentery of late in this neighbourhood, I am not quite satisfied that they can be attributed to epidemic influences; for the most part they are traceable to errors in diet. The cases resembled the epidemic of 1846–7. In-

deed, those that have come under my notice (and they have occurred frequently at intervals since) have been very much of that character, and were very generally preceded by diarrhœa. I have only to add, that my experience of calomel in the treatment of dysentery (and I have tried it extensively, in large doses and small, in combination with opium, and *per se*) has led me to abandon it as injurious. With acetate of lead I have been equally disappointed, except in a few cases that were seen early."

IX. By Dr. Young, of Holywood Dispensary:—

" Out of nearly a hundred cases treated by me within the present year, I have seen quite sufficient to justify me in arranging them in three classes, namely, the bilious, the acute or inflammatory, and the hemorrhagic dysentery. I recognise the first by the absence of abdominal tenderness, though considerable pain, like that of colic, is present; by the bilious nature of the stools, though these are also gelatinous, scanty, tenacious, and frequently repeated; and by the uneasiness complained of being chiefly confined to the epigastric region. I have invariably succeeded in curing this form by blue pill and opium, given according to the urgency of the symptoms, accompanied by an astringent mixture of rhatany, catechu, and laudanum. —I recognise the second form by deep-seated tenderness in the hypogastric region, by intense agony and straining at stool, by the small red jelly-like mass so frequently voided, and by the firm, full, and quick pulse. It is here that I have great faith in the mercurial plan as recommended by Dr. Mayne, of Dublin, and in this variety I carry out his instructions to the letter, but in addition, accompanying each dose of calomel and Dover's powder by the astringent mixture mentioned above; leeching of the anus affords surprising relief, and a bran poultice over the whole abdomen is a very comfortable application.

" The third form is easily recognised by the immense quantities of pure blood that are passed, which very soon bring on most alarming symptoms, that unless speedily checked, will end fatally. I regard this as the worst form. I have not seen many of these cases, but from what I have seen, I attach great importance to what might be called the sulphuric acid treatment. But as I also give either quina or bebeerina, and acetate of lead and opium at the same time, I will not ascribe the success attending this method entirely to the sulphuric acid. In some of these cases I have used pills of quina and opium with great success, and in one case lately I tried gallic acid in five-grain doses every three hours, and the patient recovered. Perhaps in this variety it would be worth a trial. I found the alkalies uncertain; and I have seldom done much good with astringent injections. I have not much faith in blistering in bad cases, and think diet of a supporting nature may be given earlier than what is generally supposed. I have now only glanced at the leading points of this troublesome epidemic, and having mentioned what I consider



the diagnostic symptoms of the chief varieties, with the treatment adapted for each, have only to express my great pleasure at the thought that the present investigation will most likely prove a valuable addition to our knowledge.

“N. B.—I may here mention three symptoms, vomiting, pain, and bloody stools, which I have found present more or less in the three classes of dysentery: vomiting most frequent in the first class; pain most severe in the second class; and bloody stools most marked in the third. I have made no allusion to typhoid dysentery, because typhoid symptoms will arise sooner or later in all the varieties, if the disease goes on unchecked, though, as might be expected, they will be found more frequently in the third variety.”

#### X. By Dr. P. Russell, Bangor:—

“The cases we have had in this district were few, presented a mild form, and were unattended with fatal results as far as I am aware. The treatment most generally useful in my hands was the simple one of tincture of rhubarb and laudanum, once or twice a day, in moderate doses, and I have not found any other remedy so generally satisfactory. I never prescribe calomel, but the hydrargyrum cum cretâ, with Dover’s powder, I use a good deal. In the summer of 1851 we had a very bad form of dysentery here, and I allude to it for the purpose of bringing forward some remedies which I found extremely beneficial, and which I believe are not generally used,—I allude to enemata of nitrate of silver and laudanum, one drachm of the former in eight or ten ounces of distilled water, with fifteen drops of laudanum once or twice a day. In some malignant cases, where other means failed, I found these followed by immediate amelioration; tenesmus much relieved; motions much less frequent, and their character changed; and the pulse and countenance improved. In one case only did I find the means referred to not followed by much benefit. In some of those cases in which the tongue, mouth, and fauces were covered with aphthæ, I used the biborate of soda in ten-grain doses, with five-drop doses of laudanum. Blistering the epigastrium, and the abdomen generally, was also useful, as well as bringing the system under the influence of the gray powder in combination with Dover’s powder.”

#### XI. By Dr. Playne, Dunmurry Dispensary:—

“I cannot but think that atmospheric influences brought about the epidemic dysentery of the current season in this district, admitting, of course, that damp, filthy houses, bad ventilation, unwholesome food, &c., did their usual share of the work. My reasons for looking on the cause as atmospheric are,—the condition in life of the persons attacked, and the fact that at the time the disease made its appearance (about the beginning of autumn), we had extraordinary vicissitudes from heat to cold, keen night-frosts sometimes following days of intense sultry heat.

“ The first case that came under my notice was that of a watchman, a person of robust health, regular habits, and enjoying all domestic comforts suitable to a man in his rank of life. Here, as in the majority of cases that followed, there was no insufficient clothing, inferior food, broken-down constitution, or exposure to mephitic vapours; to all of which we are accustomed to look for causes in town epidemics.

“ As regards treatment, when great prostration existed, and that was the stage in which I found nearly all my cases, I gave opium, quina, and camphor, together with mercurials and astringents, at the same time applying counter-irritants. My opinion is strongly in favour of mercurial preparations. Without the command of them, I should not like to undertake the treatment of an important case; and likewise, without opium, I fear we should have up-hill work. I do not know what could be substituted for it. Of lead I cannot report favourably; and as for enemata, every attempt I made to have them administered proved unavailing. I had recourse to aperients when there was painful and continued tenesmus, not preceded by satisfactory evacuations; and also when the morbid discharges ceased very suddenly, the other symptoms persisting.”

## XII. By Dr. Gilbert, Lurgan:—

“ In this locality the epidemic appears to be caused for the most part by cold and wet, location in damp or filthy houses, and the use of innutritious food and drink. The disease has been of an asthenic type, and in some cases approached to a malignant character, tending to serious organic lesions, and distinguished in the fatal cases by high fever, much hemorrhage, delirium, vomiting, and the dry tongue. The treatment I have employed with most success in several hundred cases consisted in *strict* attention to *diet and drink*, and the use of the following medicines in different combinations, according to the peculiarities of the particular case:—Opium, *Dover's powder*, *acetate of lead*, *hydrargyrum cum cretâ*, rhubarb, *calumba*, cinnamon; enemata; and turpentine externally, &c. Laudanum and sulphate of magnesia I consider of use in some cases, but not to be depended on nearly so much as the above means. Purgatives I never use, and rarely mild laxatives or enemata. In fact, the great object in the treatment appears to be, as in cholera, to arrest the disease as *speedily* as possible, and to guard against a relapse, not by homœopathic treatment, but by prompt, energetic measures.”

## XIII. By Dr. J. Cuming, Armagh:—

“ I have seen very little dysentery here: of the five cases which fell under my observation two terminated fatally; and though there was not a post-mortem examination in either, I have reason to believe that there was inflammation and ulceration of the large intestines in both.

“ One of the patients was in his eighty-fourth year, and in this



case the disease was of about five weeks' duration. The other case, that of an adult, terminated fatally in about a fortnight.

"The remedies I have found most serviceable in the treatment are opiates, both by the mouth and anus; warm emollient poultices to the abdomen, and occasionally leeches about the anus. I have not given mercury so as to affect the system in the late epidemic, but contented myself with such doses of hydrargyrum cum cretâ, guarded by Dover's powder, as might promote the action of the liver without irritating the mucous membrane of the intestines. When an aperient seemed necessary I used castor-oil, guarded by tincture of opium; but this I seldom had recourse to.

"The disease sometimes set in with much gastric irritability and vomiting, and for this symptom I prescribed a solution of bicarbonate of soda with tincture of opium with good effect, and sometimes I applied a blister to the epigastrium. The diet I found to answer best was flour, bread, or rice boiled in milk. Though we have had more or less of diarrhœa in the Lunatic Asylum during the autumn, I did not meet with a decided case of dysentery. Upon the whole, I should think that this locality has suffered much less from the epidemic dysentery, in proportion to its population, than Belfast."

#### XIV. By Dr. R. A. Little, Lifford:—

"Altogether I have not had more than half a dozen cases under my care, either in the infirmary or in private, and they yielded to the ordinary treatment, viz., leeches and blisters over the sigmoid flexure of the colon; mercury and opium by the mouth; and acetate of lead and opium enemata; with decoction of logwood for drink, &c.

"With respect to mercury, I am a strong advocate for its administration; and the form in which I have found it most useful is that of hydrargyrum cum cretâ, with the dried carbonate of soda, and opium; or blue pill, with ipecacuan and opium; and after the gums became affected I found half-grain doses of sulphate of copper and opium of decided benefit: but to relieve the urgent pain and irritation of the tenesmus, enemata of acetate of lead and laudanum were decidedly of the greatest service."

#### XV. Mr. F. E. Hall, Moneyglass:—

"The cause of the present epidemic dysentery in Belfast I believe to be the following, viz., malaria from sanitary causes,—emanations arising from the egesta or excreta.

"My course of treatment in this disease has been, in the first place, to bleed either generally or locally, according to the strength of the patient,—that is, if called in at an early stage. Secondly, I apply either the mustard sinapism, or hot fomentations of turpentine, over the whole abdomen; then I administer six grains of calomel and a grain and a half of opium in pill at night, and follow it with

an ounce of castor-oil next morning; and continue the above night and morning until the black bile appears copiously in the stools; not merely the dark scybalæ, but the free motion of bile, with the whole contents of the intestines. I thus not only subdue inflammation by bleeding and counter-irritants, but I empty the bowels thoroughly, either by the above means, or throw up enemata—say three or four pints of tepid water,—or, if at hand, the infusion of linseed, with a large proportion of tincture of opium, or some other emollient clyster. During each evacuation I order the feet and legs to be kept particularly warm, and if the strength be failing, I allow a glass of port wine to be given every two or three hours.

“The above are the outlines of the plan of treatment I have adopted in any cases of *acute* dysentery which came under my care, and I can assure you the result has been satisfactory.

“In the chronic form, if I find inflammation still exists, I employ leeches, fomentations, and blisters, and keep the bowels open; but in that state where bloody and mucous stools still continue, with frequent desire and tenesmus, I give astringents combined with opium; and by far the best is the sulphate of copper—say a quarter of a grain to three grains—combined with opium (in pill), but I never give it on an empty stomach, and if it should produce irritation I add from one to four drops of hydrocyanic acid. By a steady perseverance in the above plan, and keeping the bowels firmly rolled with flannel, supporting the strength, and avoiding ingesta, I have generally been successful. If tenesmus should still continue, I apply leeches to the anus, and throw up injections. Before death takes place in any case, I consider ulceration always occurs.”

An analysis of the returns of 36 cases illustrative of the epidemic presents us with the following particulars:—

Of *recoveries*, there were 19 males and 7 females, their ages varying from seventeen to sixty-seven, the average forty-three; 13 took ill in the midst of good health, the other half were delicate for some time previously. Their occupations were very various, scarcely two of exactly the same calling, but 18 were of active habits, and 13 mostly engaged out of doors; 21 were deemed temperate. In 6 cases the cause ascribed was error of diet and cold respectively, 2 were traced to contagion, and the others could give no sufficient account of the origin of their illness; 2 only received medical treatment before being seen by the reporter; 7 had taken some domestic medicines; and 17 none. The time ill before being seen by the reporter varied from two hours to eight days, the average four days nearly, and the entire duration of treatment by the reporter fluctuated between one day and seven weeks, the average being thirteen



days, but the great majority of cases recovered within this period.

The average time under different forms of treatment varied as follows:—

Cases in which bleeding was employed recovered in five days; under mercury and opium chiefly (short of salivation), in six days; under mercury, opium, and astringents combined, in twelve days; under opium and astringents alone, in sixteen days; and in cases ptyalised by mercury, in twenty-two days.

Of *deaths*, there were 5 males and 5 females: ages varied from twenty-four to sixty-five, the average forty-eight; 7 were in good health at the period of the attack; 2 delicate; and in 1 case not mentioned; 3 only were engaged in out-door employments, but 7 were of active and temperate habits. Before being seen by the reporter, the duration of the attack varied from twelve hours to fourteen days, the average four days and a half; 2 had received some medical treatment; 5, domestic remedies; and 3, none. The average duration under the treatment of the reporter was twelve days, and fluctuated from four to twenty-five days, the extremes; and as for the effects of the treatment employed, we can only ascertain that, under the opiate and astringent plan, the fatal issue occurred within five days, while under the mercurial and depleting systems life seemed to have been prolonged to the period of ten and twelve days respectively.

Having now expended our materials, and having in the course of the report indicated the principal points which seem to have been elicited therefrom, it merely remains to append a few practical remarks which are clearly deducible from a general survey, or which are likely to be suggested to an attentive reader of the evidence now furnished.

It appears, that while a considerable variety of forms obtained in this epidemic, the prevailing was decidedly the inflammatory. This is, we think, deducible not merely from the opinions of the reporters, but also from the comparatively superior efficacy of the antiphlogistic plan of treatment: hence the value of early discrimination of this form. It is quite true that the opium system, or a few doses of opium with mercury, or even a completely expectant mode of management, had its quota of recoveries. Such facts show that dysentery may be merely catarrhal, or the result of purely accidental irritation; but in a given case, should this plan fail, there cannot be a doubt that we should be prepared for meeting with prompti-

tude a serious and extensive inflammatory lesion,—always, of course, excepting those rare adynamic forms dependent chiefly upon the agency of an animal poison. Now the nice point is, how are we to discriminate the presence of this inflammatory form sufficiently early? In many cases, no doubt, there will be little difficulty—the pyrexia being marked, and the local symptoms prominent. But it is not always so: treacherous cases are not infrequent, which deceive even the most experienced. It is important, then, to have some resource to which we may have recourse in such a perplexity; and, fortunately, we may rely in a great measure upon the effects of remedies. If these be inefficient in cases seemingly of the mild forms, or give not satisfactory results within a very short period, let us at once look upon the case as one tending to present the higher grades of the inflammatory process, and act accordingly. Of course, while suggesting this counsel, we do not for a moment wish it to be understood that the antiphlogistic treatment is to be at once adopted in its entirety and purity,—such would be irrational,—but merely that it is to form the guiding idea in our management, permitting of such modifications as the particular circumstances of individual cases will always indicate. Besides this therapeutic test, we have every reason to believe that a closer examination of the patient than what is usually adopted may furnish sufficient data for early diagnosis of the existence of inflammation, more especially the examination of the abdomen by *palpation*, the changing of the tongue just at the tip and edges, the creeping up and alteration of force in the pulse, the temperature, the state of the urine, and the appearance and persistence of tenacious and coloured discharge (like pneumonic sputa). The fact is apparent, that practitioners are frequently thrown off their guard, especially in the first days of treatment, by various circumstances which tend to influence action. Thus, a series of successful cases under (say) the sulphate of magnesia and laudanum plan, the apparently good effects of opium or an astringent medicine, the slight constitutional disturbance which sometimes ushers in the most serious cases, the deceptive feelings of the patient, have each and all a paralyzing effect, induce delay, and we lose the most precious time for applying the measures which will really and effectually battle with the disease. Again, we are all too prone to become enamoured of a specific when we think we have found one, and then our great care is to apply *the* remedy in the proper *time* or proper *dose*, forgetting, it would seem, that in some case or another we must be certain to omit and overlook the more important matters of the local



lesion or the constitutional state. Nothing can be more irrational and unphilosophic than to permit the mere rumour of a remedy to supplant all other, nay even vital, considerations.

In closing this report, we have to return our most grateful acknowledgments to those gentlemen throughout Ulster to whom we are indebted for the data supplied, and especially to those who took the additional trouble of writing out *resumés* of their experience<sup>a</sup>. We were gratified to notice the favourable manner in which most of the reporters, as well as others who from want of opportunity were unable to give assistance, viewed the institution of this inquiry. We trust that in future a similar spirit may actuate our provincial brethren in the other provinces, and induce them to co-operate in epidemiological researches whenever opportunity occurs. Too frequently such efforts have been left for individual enterprise; but let us all remember that union, even of the individually weak, is strength, and do all we can to encourage that sacred spirit of brotherhood, whether it be required for the maintenance of our common temporal interests, or the promotion of our common science.

<sup>a</sup> It may be mentioned, as not elsewhere noticed, that replies to the printed queries were also furnished by the following Belfast practitioners, viz.:—Mr. J. Aickin, Mr. James Armstrong, Dr. J. W. Black, Dr. C. S. Black, Mr. S. Browne, R.N., Dr. Dill, Dr. Halliday, Mr. Hanna, Mr. Harkin, Dr. Hunter, Dr. Lynch, Dr. Malcolm, Dr. Wm. M'Gee, Dr. J. S. Mulholland, Dr. Pirrie, Mr. John Quin (since deceased), Dr. Ross, Mr. J. Smyth, and Mr. Warwick.

## PART II.

### REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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*Histoire des Polypes du Larynx.* Par G. H. EH RMANN, D. M.,  
Professeur à la Faculté de Médecine, &c. Strasbourg:  
Berger-Levrault. 1850. Folio, pp. 36. Avec six Planches  
Lithographiées.

WE are usually in the habit of associating together the idea of the greater or less interest of a disease with its rarity or frequency of occurrence,—a natural result from the desire implanted in the mind of man to seek after the unknown rather than the known; yet it is usually impressed by the teacher on the student that he should rather acquire a knowledge of the diseases which are most common, as being those he is most likely to meet with in the daily routine of practice, than of such as from their infrequency he may never see examples of. This is truly the utilitarian view of our art, and therefore probably the more correct one to be taken; nevertheless we are not to despise the labours of those who investigate and endeavour to discover the nature and correct treatment of such affections as are obscure and their history incomplete, from not being commonly witnessed.

Of the many diseases of the respiratory organs there is perhaps not one the diagnosis of which is so doubtful as of polypus of the larynx; the rarity of its occurrence, and the difficulty of its treatment, moreover, invest its investigation with peculiar interest; and therefore we think that a concise notice or abstract of the beautifully illustrated volume the title of which is given above, cannot fail to prove acceptable to our readers.

Dr. Ehrmann was induced to study this subject so long ago as the year 1837, when a case of the disease was witnessed by him, and for the treatment of which he, in consultation, proposed the operation of laryngotomy; his proposal was not



agreed to, and the case terminated fatally, with symptoms of suffocation. On post-mortem examination a polypus growth was found attached to the inferior ligament of the larynx, and completely blocking up its orifice. The author's son, struck with the singularity of this case, chose the disease for the subject of his inaugural dissertation, and from a report of all the analogous cases which had been published drew the conclusion that polypus of the larynx, if left to the resources of nature, must inevitably prove the cause of sudden death at an earlier or later period, and that even the operation of laryngotomy, although often proposed, had not hitherto proved successful when practised. This inaugural dissertation was published in 1842. In 1844, Professor Ehrmann met with the following case, in which he operated successfully:—A woman, aged 33, in whom the existence of a laryngeal tumour had been previously diagnosed, was suddenly seized with symptoms of impending suffocation, and the most prompt means were employed to avert threatened death. With this view he opened the trachea, so as to afford the patient a means of respiration, and afterwards, extending the incision into the larynx, he removed the foreign body which had been developed therein; the operation was followed by the complete recovery of the patient.

The author's success in this case was his chief inducement to undertake an inquiry into the history of the disease, and to collect together, as he has done in the present volume, a report of all the observations hitherto published upon it. Amongst them, however, he includes some examples of purely syphilitic vegetations in the interior of the larynx, in doing which we think he is in error, as they differ from true polypus of the larynx in their symptoms, and in having a special origin; and notwithstanding the opinion of the late Mr. Carmichael, published in the second volume of our former series and referred to by the author, also in being curable in the majority of cases without the intervention of a surgical operation. He has collected notices altogether of thirty-one cases which occurred in man, and to these he has appended a detail of five cases in the lower animals—two in horses and three in cows. We shall, however, notice those cases only which occurred in man, and appear to us to be examples of true polypus of the larynx. Warty growths, of which he includes some examples, occur therein, it is true, without the presence of syphilitic taint of the system,—being met with in children between the ages of 5 and 12. Nevertheless, as they do not admit of cure by surgical interference, they cannot be correctly classed with the true polypus, which being removed by operation, the patient

may recover completely. We shall notice the cases in regular order.

Cases 1 and 2 are taken from Lieutaud's works; neither seems to have been an example of true polypus, and no complete account or history of them is given. In one the person was aged 30, and the symptoms during life were of an *asthmatic* character; in the other, a boy aged 12, who was of a *phthisical* habit, death occurred suddenly.

Cases 3, 4, and 5, are from the surgical writings of Desault, as published by Bichat. The first was discovered in a dead body in the dissecting room; the second occurred in a patient of Desault, *who died suddenly of suffocation, after having been repeatedly threatened with it*; and the third was narrated to that surgeon by a medical man of experience. In all these the polypus was pyriform in shape, and inserted by a pedicle into one of the ventricles of the larynx. The symptoms during life agreed also, consisting in a sensation of obstruction in the wind-pipe, respiration easy at times, difficult at other periods, and occasional accesses of impending suffocation occurring suddenly during expiration, and disappearing often in the act of inspiration.

The sixth example is reported by Pelletan<sup>a</sup>. It occurred in a man aged between 30 and 40, who had consulted him but once for extreme emaciation and long-persisting salivation, consequent on the inconsiderate use of mercury. He died suddenly in a fit of suffocation a few days afterwards, and his friends told Pelletan that he previously had *several attacks of threatened suffocation*. On dissection, a *solid tumour* of the size of a small nut was found growing from the neighbourhood of the glottis, being attached by a thin pedicle, which allowed it sufficiently free motion to get within the rima glottidis, and thus give rise to the suffocative attacks, and eventually cause death.

The seventh case was communicated to the author by M. Schultz. It was that of a boy aged 6, who, in February, 1823, was attacked with croup, which at once assumed a chronic character, and was attended with loss of voice. On the 12th of July, twenty weeks after the symptoms first appeared, he died suddenly in a fit of suffocation. On examination, a fleshy, pediculated, movable tumour, of the size of a haricot bean, was found situated near the base of the epiglottis, and completely blocking up the opening of the glottis.

The eighth example is taken from the description of Otto.

<sup>a</sup> Clinique Chirurgicale, tom. i. p. 15.



The tumour, which was lobulated, is preserved in the Museum at Breslau: portions of it had been spat up during life. The symptoms were, hoarseness, slight cough, and dyspnœa, the difficulty of respiration eventually becoming so severe that the abdominal muscles, from the violent contraction to which they were subjected during respiration, became excessively painful; the patient gradually grew weaker, and died at length *slowly suffocated*. On dissection, the larynx was found to be completely ossified, and a large, fleshy, lobulated tumour blocked up the glottis; it sprung by slender, rounded pedicles, of a fibrous structure, from the inferior ligament of the glottis on each side.

The ninth and tenth cases are quoted from Andral's Clinical Medicine, but their history is very incomplete. One occurred in a phthisical patient, who complained for some time of a sensation of obstruction and constriction in the region of the larynx; a soft, pediculated, reddish tumour, resembling a uterine polypus, diminished to about a third the space between the *chordæ vocales*. The other was also found in a phthisical individual: the symptoms are not given. The tumour was only of the size of a pea, and resembled the syphilitic vegetations which occur at the orifice of the rectum. This case is evidently not an example of polypus.

The eleventh observation is described by M. Senn, of Geneva, from whom it is quoted, as a *syphilitic* tumour of the larynx,—hard, fibrous, warty, pediculated, of the size of a filbert. The man died suddenly; and on dissection, œdema of the glottis was discovered, and this tumour springing from the right ventricle, and *hanging* in the passage, so that a very small crow-quill could with difficulty be inserted into the larynx.

The twelfth case, as the seventh, was communicated to the author by M. Schultz, of Deux-Ponts. It occurred in an unmarried female, 44 years of age, and the symptoms were simply those of some obstruction to free respiration. She died rather suddenly, her disease not having been diagnosed; and the autopsy disclosed the existence of a movable, fleshy tumour, springing from the base of the epiglottis, and extending to the commencement of the trachea, blocking up the laryngeal tube so completely that the passage of air through it seemed to be altogether prevented.

The thirteenth example occurred in the practice of M. Albers, of Bonn, and is extracted from a report by M. Urner, of Elberfeld. A carpenter, aged 54, had suffered for several years from cough, hoarseness of voice, and dyspnœa, with pains in the thoracic and clavicular regions, but none in the larynx.

Eventually, copious expectoration, amounting to a pint and a half in the day, of a very fetid, yellowish, diffuent matter, took place,—the feet swelled, the breathing became difficult, and constant fits of convulsive cough, with dyspnœa, occurred. In one of these attacks he expired, as it were strangulated. No correct diagnosis had been made. Post-mortem examination revealed the existence of a rounded, fleshy tumour, of the size of a small nut, situated between the inferior ligaments of the larynx, and attached by prolongations to the two inferior *chordæ vocales*.

The fourteenth case was recorded by Dupuytren<sup>a</sup>. An old man was admitted into the Hôtel Dieu for some disease of the urinary passage. He had suffered for a long time from attacks of difficulty of breathing, which were ascribed to suffocative asthma, or to spasm of the glottis. He died suddenly in the hospital during one of these attacks. The examination after death showed that a *true polypus*, which sprung from one of the lateral ligaments, had completely blocked up the glottis; it was more than eighteen lines in length, and was bifurcated at its free extremity.

The fifteenth case reported was one of *warty tumours* in the larynx, which occurred in the practice of Dr. Brauers, of Louvain. He performed the operation of laryngotomy, and then discovered the cause of the difficulty in respiration which had previously existed. He first applied the acid nitrate of mercury directly to the growths, and afterwards the actual cautery, but they increased, notwithstanding, so rapidly as to block up the external incision and to necessitate its enlargement. The patient was then attacked with hectic fever, which it was believed proved fatal, but the result was not accurately described.

The sixteenth is an example of *vegetations* in the larynx, reported by Mr. Rayer in his work on Diseases of the Skin.

The seventeenth case occurred in the practice of Dawosky, of Celle (Hanover). It was not a true polypus, consisting, as described, in the growth from the larynx of vegetations resembling a bunch of grapes. Dr. Ehrmann appends to this case a notice of the existence of one precisely similar in the Hunterian Museum in London, numbered 1059.

The eighteenth example given is from the treatise of MM. Trousseau and Belloc on Laryngeal Phthisis. It occurred in a man aged 42. The symptoms lasted for a year and-a-half, and consisted in attacks of obstructed respiration, amounting at times almost to suffocation, both inspiration and expiration

<sup>a</sup> Leçons Orales, tom. iii. p. 602.



being equally difficult. Laryngotomy was performed to relieve the symptoms, which became most urgent, but the patient survived the operation for six days only. Post-mortem examination revealed general œdematous tumefaction of the larynx, and the existence of a *lardaceous* tumour springing from its left ventricle, and passing into the laryngeal tube, in which it assumed the colour and consistence of a mucous polypus.

The nineteenth example, cited by the author, was a case reported by M. Gérardin to the Academy of Medicine. The symptoms consisted in sudden loss of voice occurring two years previously to death, and persisting; about a fortnight before the fatal termination, symptoms of suffocation set in, and eventually proved fatal. Post-mortem examination revealed the existence of a tumour of the size of a hazel-nut in the larynx; it was whitish, uneven on the surface, from one to two lines in length, and sprang by a short pedicle from the right sinus, which it filled completely. There was no ulceration or redness of the laryngeal mucous membrane.

The twentieth case is cited from Mr. Ryland's treatise on Diseases of the Larynx<sup>a</sup>, by whom it was quoted from Mayo's Pathology. The preparation is preserved in the Museum of King's College, London, and consists of "a firm, whitish, elastic polypus, which grew by a pedicle from the root of the epiglottis in an elderly lady. It had produced occasional suffocative seizures, in one of which the patient died."

The twenty-first case, also cited from Ryland, possesses no interest, as the history of it is unknown, except that the patient died of phthisis. The preparation is in the King's College Museum. Drawings of both are given by Ryland, and copied by our author, from which they seem to have been examples of true polypi.

The twenty-second example occurred in the author's practice, and first drew his attention to the subject. The original account of it, as we have already noticed, was published by his son in his inaugural dissertation. The case was that of a boy, nine years old, who, about half a year before his death, was attacked with some hoarseness and occasional obstructive respiration, but not sufficient to alarm his parents. On the 9th of September the symptoms first became alarming; on the 11th the author diagnosed the existence of a foreign growth in the larynx, and proposed the operation of laryngotomy, which was not acceded to, and the boy died on the next day. Examination of the larynx after death disclosed in it a fleshy, lobulated

<sup>a</sup> London: Longman, 1837, pp. 228.

excrescence, of the size of a nut, springing, by means of a pedicle, from the left inferior ligament of the larynx.

The twenty-third case is copied from an inaugural dissertation by Rendtorff, published at Heidelberg, in 1840. It is that of a young man aged 19. He complained for only a short time before his death, which took place suddenly, of uneasy sensations in the neighbourhood of the larynx, with a constant and copious secretion of mucus in the throat, but he had no loss of voice, or symptoms of suffocation. A dense, fleshy polypus, of a pale-red colour, and of the size of a filbert, was found on post-mortem examination to spring from the aryteno-epiglottidean ligament, and passing into the larynx, to narrow its caliber in the upper part.

The twenty-fourth, twenty-fifth, and twenty-sixth cases are from Gluge. The first occurred in a man, aged 50, who had suffered for only a short time from dyspnœa, and did not keep his bed until a few days before his death. His voice, however, had been low and whispering for a long period. He died suffocated, his disease not having been previously recognised. Dissection showed the existence of a hard, fibrous polypus, as large as a pigeon's egg, in the larynx, extending from the left arytenoid region to the third ring of the trachea. The second was discovered in a dead body, and is described as an *excrescence* of the mucous membrane. It should not, therefore, we think, be classed with true polypi. The same may be said of Gluge's third case, which consisted in a general tumefaction of the parietes, with a tumour which, springing from the mucous membrane of the larynx, projected towards the surface so as to be recognised during life as a morbid growth. It happened in a woman, aged 40, who for many years had suffered from difficulty of breathing and loss of voice. She died suddenly, a short time after the operation of laryngotomy had been performed.

Of the twenty-seventh case no history during life is given. It occurred in the practice of Dr. Nasse, of Bonn, and the preparation is thus described by Albers in his Pathological Atlas: "The internal surface of the larynx of an adult, who for many years had been affected with hoarseness; a pulpy, soft tumour is growing from the commencement of the left inferior ligament of the glottis; no trace of fibrous tissue could be discovered in it; there is some deformity of the openings of the glottis."

The twenty-eighth case given by M. Ehrmann we notice directly from the 32nd volume of the London Medical Ga-



zette<sup>a</sup>, in which it was published by Mr. Stallard, of Leicester. A woman, aged 40, died suddenly after a violent paroxysm of coughing. She had been but four days in hospital, and on admission "she stated that for a long time past she had been asthmatical, and had a very bad cough. On examination after death, there was found in the trachea a loose body of a polypoid nature, about the size of an almond, and having a pedicle about three-quarters of an inch long, and about half an inch below the cricoid cartilage; at the anterior part were the remains of the pedicle of the polypus."

The twenty-ninth is the case referred to in the commencement of this notice, in which Dr. Ehrmann diagnosed the disease and operated successfully. It occurred in a married woman, aged 33, of a sound constitution, and always in the enjoyment of good health. In the autumn of 1840 her voice was at first noticed to become hoarse, and finally to be lost. This change was not attended with pain, or any difficulty in attempting to speak or during respiration. In 1844, the patient herself perceived that she could imitate the sound of the opening and shutting of a valve (*bruit de soupape*), by a sudden effort of inspiration and expiration. At times, during her meals, drops of liquid entered readily into the larynx and excited violent fits of coughing, during which she occasionally expectorated small particles of a structure resembling the tumour, afterwards removed by the operation. In March, 1844, she was seized for the first time with an attack of extreme difficulty of breathing, evidently arising from some mechanical obstruction to the free entrance and exit of air existing in the throat. Dr. Ehrmann now saw the case, when, finding that the polypus had become fixed in the rima of the glottis, and that immediate death from suffocation threatened, he performed the operation of tracheotomy, cutting through the cricoid cartilage and the first two rings of the trachea. So much immediate relief was thus afforded that he thought it better to delay for the present incising the larynx to seek for the tumour. In forty-eight hours, the presence of the canula in the trachea having excited constant fatiguing cough, he did not delay any longer. He then made an incision along the line of junction of the two wings of the thyroid cartilage, cutting downwards to meet the opening previously made into the cricoid cartilage, and in which the canula was retained during the operation, and upwards towards the os hyoides. The cavity of the larynx being then

<sup>a</sup> Page 275.

sponged, so as to free it from blood, the polypus excrescence became visible, situated along the left inferior ligament of the glottis; it was seized with a forceps, and excised by means of an armed bistoury. The growth was in three pieces, and of a *cauliflower* aspect, having fleshy granulations here and there on the surface. On the twenty-first day air no longer passed through the wound, and she breathed easily by the natural passage; in short, she recovered in all respects, with the single exception of the aphonia persisting; but unfortunately, in six months afterwards, she was carried off in an attack of typhoid fever. Examination of the larynx after death proved it to be perfectly healthy, the part from which the tumour was excised being still visible. Sections of the growth, when placed under the microscope, showed its consistence to be analogous to that of the laryngeal mucous membrane, but the epithelial cellules were more abundant than usual.

The thirtieth case is an example of wartlike vegetation in the larynx of a child four years and a half old. Death was attended with symptoms of *slow* asphyxia.

The thirty-first case occurred in the Military Hospital of Strasbourgh, the patient being an officer aged 60. For about two years he had suffered from attacks of difficult respiration and aphonia. On his admission on the 15th October, 1846, he was in a state of asphyxia, and consequently tracheotomy was at once performed. He did not recover completely, although he lived for three months afterwards. On examination after death, a *fusiform*, pediculated polypus was found in the larynx, lying in the length of its caliber, and of nearly an inch long.

To the foregoing cases of polypus of the larynx occurring in man, as reported by Dr. Ehrmann, we shall append the following well-marked example, published by Dr. Parker in the New York Journal of Medicine for January, 1852:—"J. D., aged 60, a weaver, a native of England, married, of good habits and healthy parentage, had a severe attack of inflammation of the lungs fifteen years since, which it was thought he could not survive: he, however, at length recovered, and pursued his trade until six years ago, when he came to America. In this country he was engaged in an establishment where most of his time he was enveloped in steam: while in this situation he contracted a severe cold accompanied by a hoarseness, which continued gradually increasing in severity up to the time of his death. Succeeding this, he began to suffer a difficulty of respiration, and often, when the weather was cold and damp, the dyspnœa would be so great as to threaten immediate suffocation. For a time his general health continued good, but as



the disease advanced deglutition began to be attended with much uneasiness about the larynx, amounting often to threatened suffocation, and finally prevented him from swallowing anything but soft or semi-fluid food. He now began to emaciate. On the day of his death he was able to walk about his room, but he remarked to his wife that he could not live long. He died suddenly, as if with œdema glottidis. *Autopsy, sixteen hours after death.*—Both lungs free from adhesions, but distended with air, owing to the great degree of emphysema which existed; no tubercles were discovered; the trachea and larynx were removed, and, upon laying them open, the *causa mortis* was revealed, viz., a polypus attached by a pedicle to the right superior chorda vocalis; the body being of the size of a chestnut, and occupying the rima glottidis. The polypus was of the kind called mucous polypus.”

Three other cases have been collected by Dr. Parker from the American journals, but they do not appear to us to have been examples of what may be called *true* polypi<sup>a</sup>.

We shall now proceed to analyze Dr. Ehrmann's commentary on the cases of this rare disease, which he has collected together in the highly interesting volume before us, and an abstract of which we have given in the foregoing pages.

No matter how the tumours may have differed in anatomical composition or in their exact seat, they appear to have all given rise to a nearly analogous set of *symptoms*, varying, however, more or less in intensity, from simple alteration of the voice to complete asphyxia. Aphonia was the most constant symptom, and usually was the first present; cough was only occasional, and had nothing peculiarly characteristic; it was in some instances croupal: the feeling of a foreign body in the larynx, when it occurred,—which it never did until the case was far advanced,—was the most pathognomonic of all; it was present during attempts at expectoration, or when solid food was being swallowed. Dyspnœa was a very constant symptom: it either commenced insensibly and increased slowly, or appeared suddenly, accompanied by a painful sensation of suffocation, which recurred in fits, varying, however, in their nature and character, being in some cases so severe as to require the operation of tracheotomy to be performed without delay.

<sup>a</sup> In our Selections from Foreign Journals (Part III. of our present Number) will be found an interesting example of polypus of the larynx, the report of which may be regarded as supplementary to our notice of Dr. Ehrmann's work. Singularly enough, it also occurred in the practice of a Strasbourgh physician.

The only *true pathognomonic sign* of the existence of a polypus in the larynx, according to the author, is the expulsion of portions of the morbid growth, as occurred in two of the reported cases; but even this alone we cannot regard to be so, as such expectoration could with difficulty, if at all, be diagnosed from that of the so-called bronchial polypi:—taken in connexion with other symptoms and signs, its import is certainly most important.

The stethoscope does not appear to have been used much, or to have afforded useful diagnostic assistance when it was employed, and yet we think it ought to prove most serviceable in a doubtful case,—and all these cases are doubtful. In a man, aged 24, under our care while we write, and in whom we believe a polypus to exist in the larynx, there is comparative absence of laryngeal murmur just below the cricoid cartilage at the left side; but Dr. Ehrmann conjectures that a hissing or whizzing sound (*une espèce de sifflement*), should be heard. The *bruit de soupape* constituted, as may be remembered, a highly characteristic phenomenon in one of the cases narrated.

The progress, with reference to rapidity, or the period at which a laryngeal polypus may prove fatal, is, it is evident, most uncertain.

As regards the *pathological anatomy and histology* of these tumours, Dr. Ehrmann remarks:—

“The form and structure are variable; they are sometimes roundish, sometimes irregularly shaped, united in clusters, granular, lobulated, most frequently pediculated; occasionally resembling condylomata in appearance. Their attachments, whether broad or slender, single or multiple, are rarely travelled by blood-vessels of any size. They may occupy the entire internal surface of the larynx, but they are attached more usually about the glottis, particularly to its inferior ligaments. The epiglottis is the usual seat of those vegetations, which are supposed to be syphilitic. The growth is constituted in some cases of fibrous or fibro-cellular tissue, and in others of all the elements of the mucous membrane united, but modified in character. When the tumour belongs to the first class, it exists in the form of a firm and compact mass, resembling that which constitutes fibrous tumours properly so called; in this respect the tissue composing this species may be compared to that of the ligaments of the glottis, or of their neighbouring parts; we also see the pedicles of these tumours to consist in fibrous prolongations, by which they are inserted into the fibrous network of the *chordæ vocales*. The tissue of these tumours is traversed by extremely minute blood-vessels, and their external covering is composed of altered mucous membrane. The polypus in the twenty-second case was of this nature. The second variety of laryngeal polypus consists



chiefly of tissue similar to that of the mucous membrane; of this form Case 29 afforded a good example." From the microscopic examination of it, it would appear probable "that hypertrophy of the mucous membrane involves especially its epithelial layer, for it is this which is found accumulated in the mass forming this species of polypus, the cellular substance which occurs in it belongs, as we know, to the basic tissue of all mucous membranes, and if some fibro-plastic elements occupy occasionally the base of these vegetations, it establishes, as it were, a sort of transition between the mucous polypi properly so called and the fibrous polypi."

The author concludes his anatomical description of these growths in the following words:—

"M. Lebert, who has specially studied the tumours of the mucous membranes, is of opinion that in no case should the term polypus be applied to them, but that they should be called *excrescences* or *hypertrophies*, and distinguishes them into three forms:—1st. *Epithelial hypertrophy*; 2nd. *Circumscribed hypertrophy* of the entire thickness of the mucous membrane; and 3rd. *Hypertrophy* of a portion of the submucous areolar tissue only. These three forms correspond, as we see, to the principal elements of the *mucous system*, and there exist between them different degrees of transition. Although M. Lebert does not mention polypi of the larynx, a disease which he appears to have had no opportunity of observing, the description he gives of mucous tumours is perfectly applicable to those of the air-tube."

In fine, as regards treatment, Dr. Ehrmann correctly states, as the deduction to be drawn from the cases he has collected, that the only true method of cure consists in the ablation of the polypus growths by means of laryngotomy; and his own case certainly proves the operation to be not only effectual but safe. It is, however, we conceive, most important that the operation should be performed at as early a period of the disease as possible; and if we consider the slight danger attendant on opening the trachea, we hold that, in doubtful cases, where the symptoms tend to indicate the existence of a morbid growth in the larynx, it would be not only justifiable, but judicious practice, to perform the operation of tracheotomy even as an exploratory measure.

We have given the foregoing rather full analysis of Dr. Ehrmann's book as being one of the most interesting monographs which, perhaps, it has ever fallen to our lot to review. It reflects the greatest credit on the author's industry, research, and judgment; while the result of his own case, to use the words of Stromeyer, when an account of it was read before the Scientific Congress at Aix-la-Chapelle, in 1847, "constitutes one of the most brilliant conquests of modern surgery."

*Der Typhus in Irland, beobachtet im Sommer, 1852.* Von DR. JOSEPH LINDWURM, früherem Assistenzarzte der med. Kliniken zu Heidelberg und Würzburg. Erlangen, 1853. Verlag von Ferdinand Enke. 8vo, pp. 99.

*Typhus Fever in Ireland, as observed in the Summer of 1852.* By DR. JOSEPH LINDWURM, formerly Assistant Physician to the Medical Clinique in Heidelberg and Würzburg.

THIS work, the result chiefly of a two months' stay in the Irish metropolis, will strike even those who may not wholly coincide in the writer's views as being the production of an anxious and diligent searcher after truth. It is dedicated "in token of the author's gratitude, to the Professors and Physicians of the Dublin Hospitals, who through their liberality assisted in his undertaking; and in particular to Professor Dr. William Stokes." The object of Dr. Lindwurm's investigations, as well as the opinions he has formed from a careful examination of disease, will be best explained by giving, as nearly as may be in his own words, a brief abstract of his prefatory remarks.

Two visits of some duration to Ireland and Scotland have confirmed the author in agreeing with the view put forward by Drs. Graves and Stokes, that in typhus the organic lesion is to be considered as secondary to the general disease; and in dissenting from the opposite opinion which originated with the older French School, that the fever is only the consequence of a local affection. In the year 1851, in company with his friend Dr. Rullmann of Wiesbaden, he passed four months in Edinburgh, Glasgow, Dublin, and London; and in the former city,

"We saw," he says, "for the first time a great number of cases of typhus, some of which not only ran a like course and presented like symptoms with our ileo-typhus, but gave the same results on dissection; while others exhibited similar symptoms and went through a similar course, being generally attended with a diffused roseolar or measles-like eruption, but, on the other hand, showed no constant changes in the dead body.

"Convinced of the similarity of the symptoms and course, and of the different results of the post-mortem examinations of the two classes of cases, we sought both in the copious English literature, and from all the physicians and clinical teachers with whom we were acquainted, an explanation of the nature of these fevers. But on no group of disease, perhaps, does so great a difference of opinion exist as prevails in reference to fever. While some assume but *one* fever, and regard all species, as measles, scarlatina, typhus, typhoid fever, &c., as only modifications of one and the same morbid



process, others look upon each individual form of typhus as an independent specifically different disease, with independent contagion."

Having given a remarkable instance of this difference of opinion, the author informs us that in the summer of last year he returned to England, in order by accurate observation at the bedside, and by as many post-mortem examinations as possible, to study for himself the nature of typhus, and, if practicable, to ascertain whether the typhus of Britain differs from the Continental; whether the simple or exanthematous can be distinguished during life from the ileo-typhus; and whether there really exist two specifically different morbid processes, as distinct, for example, as measles and small-pox. Further, he took the greatest interest in the question of contagion, since almost all English physicians and writers set down its existence as incontestible, while there is so little to adduce in support of the contagiousness of the typhus of his own country:—

"I chose," he says, "Dublin as my place of observation: from the experience of my former journey I knew that typhus always prevails there, and that I was certain of obtaining every assistance in my undertaking from the physicians of that city. In no respect was I deceived in my expectations. During two months that I remained in Dublin, I had at my service for observation a very large number of cases of typhus. In the Hardwicke Fever Hospital, which I visited daily, there were treated during the month of August, 1852, 160 cases of fever, and 35 of small-pox and measles; in the Meath Hospital, which I likewise visited daily, I saw about 20 cases of typhus; and in Cork-street Fever Hospital there were on an average during my attendance from 100 to 120 fever patients in the house."

The author considers that two-thirds of the cases in the fever hospitals were typhus; and he suggests accurate statistical reports on typhus as a desideratum, stating that he found all hitherto published reports incomplete and unsatisfactory, the most different diseases being thrown together under the designation of "fever." He declines for himself to attempt any statistical statement either in general or in special reference to the hospitals he visited; his proposed task being, by means of a certain number of accurately reported cases, to sketch as faithful as possible a picture of typhus as he observed it in Dublin, appending reports of the autopsies he had the opportunity of making, and concluding with a short statement of a few interesting cases, which presented something remarkable in their course.

In the treatise which follows the foregoing, and which may

be considered as the second part of his work, Dr. Lindwurm gives a detailed description of the disease with reference to the existing English literature on the subject. The two principal points he has had in view in its composition are, the question of contagion, and the identity or non-identity of the several forms of typhus. For the sake of completeness he adds a short examination of the so-called relapsing fever.

The following paragraph exhibits so much kindly feeling towards the profession in Dublin that we shall but render justice to the author by translating it; in so doing we must, however, dissent from some of his observations as regards our pathological investigations:

“I esteem it to be an especial duty to take this opportunity of expressing my warmest thanks for the cordial and hospitable reception I experienced in Dublin. I was assisted in the most friendly manner in my labours by all the physicians of that city; every institution was at all times at my service; and the dissections at the Hardwicke Fever Hospital were with the greatest readiness intrusted to me during my stay. As concerns the latter, I should desire, solely through interest in the medical school of Dublin, to express a wish that a change might be adopted which would prevent such abundant materials being turned to so little account as they at present are. Each principal physician leaves it to his assistants to perform the post-mortem examinations as they think fit; when they please (and this is unfortunately not always the case), interesting preparations are put up in well-arranged museums. But so long as all the dissections are not made and demonstrated by a professor specially appointed for the purpose, the study of pathological anatomy can make no decided progress in Dublin, and must continue to be, as hitherto, limited to an abundant collection of interesting preparations.”

It must have been through inadvertence alone that the author could have been led to form so unfavourable an opinion of the state of the study of pathological anatomy in Dublin. In no place, we believe, are more pains taken with this particular branch than in the Irish metropolis, as the Proceedings of the Dublin Pathological Society, the first of its kind established, which are regularly published in this Journal, will amply testify. The dissections in the several hospitals are, in almost every instance, made under the immediate superintendence of the attending physicians and surgeons; and it is only surprising how many of these gentlemen, extensively engaged in private practice, have been able to devote so much time as they have done to this subject. Of every preparation and drawing in the valuable and extensive Museum of Surgical and



Medical Pathology attached to the Richmond Hospital, a full and accurate history is on record. It must, however, be remembered, that Dr. Lindwurm's visit was made during the recess; had it taken place during the medical session, and had he attended the weekly meetings of the Pathological Society, his statement would have been far different.

To this we may add, that the distinguishing characteristic of the Irish School of Medicine is, that while original observations in pathological anatomy have been multiplied to so great an extent, and by numerous investigators, their relation to practical medicine and surgery has been made the primary consideration. It is this which has given the great value to the researches of so many of our pathologists, and has rendered every one of their memoirs a distinct addition to some part of the science of diagnosis and of practice. We are acquainted with no school of medicine where the mere anatomical preparation—no matter how carefully made, but of which the history is unknown—is so lightly esteemed as in Dublin.

After some remarks on the terminology employed in England in reference to the various forms of febrile disease, the author details in full a report of fifteen cases of typhus observed by him in Dublin, to which he adds abstracts of ten others, each presenting some unusual circumstance.

In what we have termed the second part of the work, Dr. Lindwurm examines at length the symptoms, complications, mortality, pathological anatomy, prognosis, causes, and treatment of the "Irish (simple, petechial, or exanthematous) typhus."

The author does not propose to enter at length into the causes of typhus, feeling that for such a task the most accurate knowledge of the geographical, meteorological, and social relations of Ireland would be indispensable; he contents himself with adverting to these points in a general way, but examines more closely the question of contagion. He came to Ireland with some prejudice against the truth of the doctrine of contagion, since most of the proofs brought forward to establish it admit of another explanation. The only proof of contagion which, in his opinion, is absolutely valid, is where a disease is imported by an individual to a place where it did not previously exist, and when it is there disseminated by that affected individual. To such cases the objection, that the persons to whom the disease is communicated exposed themselves to endemic or miasmatic sources of infection, does not apply, and such instances are so numerous, that Dr. Lindwurm can no longer doubt the contagiousness of the exanthematous typhus,

though he can by no means regard this as absolute, or as the sole cause of the disease. The rule is, that persons who come much in contact with patients in typhus are attacked; he himself was spared, although during his two months' stay in Ireland he saw a great number of patients, daily visited two fever hospitals, and observed none of the rules urgently recommended to him by his friends.

Though he must, then, admit the contagiousness of the Irish typhus, he does not think that it is very energetic, since experience shows that when the fever is imported into the families of the better classes, it seldom spreads. Were contagion the only cause of the disease, all individuals, all ranks, should be attacked with it, but it is not so; small-pox, measles, scarlatina,—recognised as contagious diseases,—if they exceptionally spare some individuals, spread in all ranks alike, in the huts of the poor and the houses of the wealthy: the Irish typhus does not so. Its spread depends, in the most intimate manner, on uncleanness, bad dwellings, imperfect ventilation, unwholesome and insufficient food, over-crowding of individuals in houses, &c. With reference to this point, we beg the especial attention of our readers to the interesting inquiries of the late Dr. Whitley Stokes, which were published in his "*Observations on Contagion*," in the year 1818, and were quoted in the fourth volume of the present series of our Journal, p. 137.

The author narrates a striking fact, mentioned to him by Dr. Neligan, as showing the influence of diet on the type of fever. When Dr. Neligan acted as physician to the County Tipperary Gaol, in the years 1837 and 1838, an epidemic of typhus broke out in the building: of 400 prisoners, between 50 and 60 were attacked with the disease. Those who had been long in prison, and consequently had a wholesome dwelling and good food, alone exhibited the ileo-typhus, while those who had been but recently brought in presented the exanthematous form. Yet we would be reluctant that this fact, interesting though it be, should be taken as strengthening the opinion first we believe, put forward by Lombard, that the ileo-typhus, or typhoid fever, occurs exclusively in persons who have been well nourished, while the petechial typhus selects for its victims the half-starved and the miserable. Such a doctrine is contrary to all practical experience in Ireland, and we need go no further than the epidemics of 1847 and 1848 to show that the best fed, the best housed, and the best clothed, portions of the community suffered from petechial typhus as much as the lower orders.

The author proposes to himself, at the conclusion of his



volume, the investigation of the question,—Is the typhus endemic in Ireland a specifically different disease from the ileo-typhus,—distinct, for example, as measles and small-pox; or is there only one typhus, modified by climate, mode of life, description of diet, &c.?

“I must,” he adds, “declare unconditionally for the latter view, viz., that the diseases described as distinct species of typhus are only modifications of one and the same morbid process; of the essence and nature of which we are, however, ignorant.” It is unnecessary for us to follow the author into a consideration of the proofs, derived both from his own observation and the writings of others, which he adduces in support of this opinion; but we shall give at length his comments on the views of Dr. Jenner, of London, which agree with the view we took of that author’s opinions in our twelfth volume<sup>a</sup>:—

“I will lastly recapitulate and briefly examine the points brought forward by Jenner to establish the non-identity of ileo-typhus and the exanthematous disease.

“According to Jenner, typhus and typhoid fever differ—

“1. ‘In the age of the patients: typhus attacks every age, young and old; the typhoid disease principally occurs in persons under 40. It certainly occurs in older people, but this rarely happens.’

“Typhus as well as typhoid fever is a disease of youth; either form occurs more rarely in old people. Besides, a statistical collection of 66 cases is not sufficient to establish such points, or many of the following:—

“2. ‘In the mode of attack: typhus attacks suddenly; the typhoid disease generally slowly.’

“Many cases of typhus begin insidiously, with premonitory symptoms, &c.

“3. ‘In their duration: the course of typhus is shorter than that of the typhoid fever.’

“In general this is true, since the intestinal affection renders the course of typhoid fever tedious; but the character of the epidemic, and the complications of the disease, have the greatest influence on this point.

“4. ‘In the eruption.’

“I can only admit a difference in extent, not in the form.

“5. ‘In the colouring of the skin, the expression of the countenance, and the manner of the patient.’

“In an extensive eruption, a greater turgescence of the skin occurs. The expression of the countenance, the manner of the patient,—in a word, the entire portrait of the disease, is the same.

“6. ‘In the violence and course of the head symptoms: headache is present in both, but its duration differs: in typhus, it usu-

<sup>a</sup> Page 434.

ally ends on the tenth day, and *always* before the fourteenth; in the typhoid disease it terminates about six days later, sometimes even not before the end of three weeks. Delirium occurs some days earlier in typhus than in typhoid fever; coma is more frequent in typhus, and occurs at an earlier period, &c.'

"7. 'In the degree of muscular weakness: the prostration is greater in typhus, and appears sooner than in the typhoid disease.'

"8. 'The pulse is more variable in typhoid than in typhus fever.'

"These particulars—6, 7, and 8—vary so much in different individuals, that they cannot be considered as general points of distinction.

"9. 'In the frequency of the occurrence of epistaxis: which is very rare in typhus, and tolerably frequent in the typhoid fever (in a third of Jenner's fatal cases, and in nearly one-half of those of Louis).'

"Epistaxis is likewise very common in many epidemics of typhus, as appears from the various reports from Ireland.

"10. 'In the state of the eye: in typhus, the conjunctiva is ordinarily injected, and the pupil contracted; in the typhoid disease, the conjunctiva is pale, and the pupil more dilated than usual.'

"Hyperemia of the conjunctiva is very common in typhus, which is easily explained by the general turgescence of the skin; but a difference in the condition of the pupil can scarcely be established. Graves considers a contracted pupil in typhus to be an extremely unfavourable sign, as do Stokes and many other practitioners. If it were so frequent, it certainly could not be looked on as a prognostic of very bad import.

"11. 'In the condition of the tongue: which in typhus is drier, browner, and thicker; in the typhoid fever it is more frequently small, chapped, red, or partially coated with a light brown mucus.'

"One might just as well assert, that the patients in typhus are larger than those in typhoid fever.

"12. 'In the thoracic symptoms: sonorous rales are very frequent in the typhoid disease; proportionally rare in typhus. Dulness on percussion in the lower part of the lungs (a little above the base), dependent on hypostatic congestion, is frequent in typhus, rare in typhoid fever.'

"In typhus, which is almost always complicated with bronchitis, sonorous rales are said to be rare!!! I refrain from any remark on the alleged difference on percussion.

"13. 'In the abdominal symptoms.'

"That these should be more prominent in the ileo-typhus is natural. But abdominal symptoms sometimes also occur in typhus; gurgling (Gurren), tympanitis (Meteorismus), diarrhœa, &c.; while they are often absent in the ileo-typhus.

"14. 'In the occurrence of sequelæ: bedsores are equally frequent in both; erysipelas, phlebitis, local inflammations, and ulce-



rations, are much more common in the typhoid disease; deposit of tubercle in the lung, too, more frequently follows the typhoid fever.'

"All these affections likewise occur after typhus. The proportion in which they more frequently accompany either form could only be ascertained by numerous statistical observations.

"15. 'In the persistence of the eruption after death: the spots of typhus continue evident after death; the rose-red spots of the typhoid disease are not to be seen.'

"A truly superficial statement. Spots caused by mere hyperemia disappear on death, and of such kind are the rose-red spots; but these occur both in typhus and in the typhoid disease. Eruptions caused by exudation or extravasation continue visible after death. We will never see the measly, bright-red eruption of typhus, which disappears on pressure, after death.

"16. 'In the duration of cadaveric rigidity': which, according to Jenner, disappears sooner in typhus than in the typhoid disease.

"17. 'In the more rapid dissolution of the tissues in typhus than in typhoid fever: for example, speedy separation of the epithelium from the subjacent membrane,' which, according to Jenner, can be well observed with the microscope in a section of the kidneys.

"18. 'In the frequent occurrence, in typhus, of hemorrhage into the arachnoid membrane:' according to Jenner, this occurred in an eighth of the fatal cases, while, on the contrary, it never took place in the typhoid disease. In typhus, too, a large amount of serum is found in the ventricles of the brain.

"19. 'In the frequency of ulceration of the mucous membranes in the typhoid disease, and its comparative rarity in typhus: in about a third of the cases of typhoid fever, we meet ulcerations in the pharynx, while in typhus they never, or but seldom, occur; likewise ulcerations in the larynx, œsophagus, large intestines, &c.'

"But Jenner himself admits that they also occur, though rarely, in typhus.

"20. 'In the morbid alteration of Peyer's and the mesenteric glands: which, although it varies greatly in intensity, is constant in the typhoid disease, and, on the contrary, *never* occurs in typhus.'

"The observations of Stokes, Kennedy, Wood, Watson, and Todd, prove that this statement is not absolutely true.

"21. 'In the greater softness and flaccidity of the muscular substance of the heart in typhus than in the typhoid disease.'

"I found in typhus only the same relaxation of the heart that exists in all very acute, exhausting diseases.

"22. 'In the frequency of lobular and lobar pneumonia in the typhoid fever, and its rarity in typhus: hypostatic congestion, in the dependent portion of the lungs, is more frequent in typhus, but true inflammation is rare.'

"In the few dissections I made of typhus, I had two cases of recent croupy pneumonia; in many epidemics they are, according to

the statements of physicians, very frequent. Hypostases are almost always found in the bodies of persons dead of typhus and typhoid fever.

“23. ‘In the more frequent occurrence of pleuritis in the typhoid disease (40 per cent. of the fatal cases, according to Jenner) than in typhus (5.5 per cent.).’

“Pleuritis is certainly an accidental complication, just as pneumonia is, and might very much depend on the character of the epidemic.

“24. ‘In the degree of softening of the spleen: which is more considerable in typhoid than in typhus fever.’

“I found enlargement of the spleen likewise more constantly in ileo-typhus.

“25. ‘In the mortality: which, according to Jenner, is greater in typhoid than in typhus fever.’

“This agrees with my observation, but others have found it greater in typhus. This, also, must surely depend on the virulence of the epidemic.

“With the exception of the diffused eruption in typhus, and the affection of the glands of the ileum and mesentery in the typhoid disease, the other points of distinction appear to me to be only artificial, arbitrary, or accidental. And since, as many observers state, the diffused eruption and infiltration of Peyer’s glands occur together; the entire portrait of the disease is the same; the sequelæ are the same; both forms arise from *one* contagion; and a convalescent from typhus is never attacked by the typhoid fever, nor a convalescent from the latter by typhus,—I must, in the most decided manner, confess myself a believer in the identity of the two forms, and agree with the view of those who assume but *one* typhus, with a variety of modifications.”

The concluding paragraph of Dr. Lindwurm’s work consists of a vindication of Dr. Stokes’ views on this subject, which seem to have been misunderstood by a French writer. It is as follows:—

“Lastly, I consider it to be my duty to refute a statement to be found in the last edition of Valleix’ ‘Guide du Médecin Praticien’<sup>a</sup>:—‘Il n’est pas aujourd’hui en Irlande de médecin instruit qui ne distingue pas parfaitement les deux maladies. M. W. Stokes qui a écrit sur le traitement de typhus, et dont tout le monde connaît l’habileté, ne conserve pas le moindre doute à cet égard.’ I must distinctly designate this statement as incorrect, having, in the course of an intimate personal acquaintance with Dr. Stokes, very often had the opportunity of conversing with him on the subject; he knows but *ONE* TYPHUS, with a variety of forms.”

<sup>a</sup> Paris, 1851. Tom. v. p. 483.



In conclusion we must say, that seldom has the perusal of a book afforded us greater pleasure than we have derived from that of the work we have just reviewed. It is not merely the talent and clearness with which the author has treated his subject which have produced this effect, although these would have been sufficient to do so. The cordial, genuine interest which Dr. Lindwurm evidently takes in the welfare of the Medical School of Dublin gives it a high value in our eyes, as the best proof of the kindly feeling he entertains towards Ireland.

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*A Treatise on Removable and Mitigable Causes of Death: their Modes of Origin, and Means of Prevention; including a Sketch of Vital Statistics, and the Leading Principles of public Hygiene in Europe and India.* By NORMAN CHEVERS, M.D., Bengal Medical Service, &c. Calcutta. 1852. 8vo, Vol. I. pp. 329.

It is not long since we had the pleasure of bringing under the notice of the profession Dr. Chevers' able essay on the Management of Diseases of the Heart, and of which we felt it our duty to speak in laudatory terms. We are happy in again having an opportunity of renewing our acquaintance with him, and noticing the recent production of his pen on the all-important subject of public hygiene. No one can doubt that this, as Dr. Chevers remarks, is "the most vitally interesting scientific subject of the day," and affords an illimitable field for observation and anxious inquiry. Hitherto the public, or indeed the medical, mind has not been sufficiently impressed with its magnitude or vast importance. During the progress of severe epidemics, or when threatened with some pestilential visitation, it is true that the community has been aroused to something of active exertion, and medical men in abundance have become essayists on the principles and benefits of sanitary reform; but no sooner has the epidemic passed away, or the signs of the threatened invasion become less alarming, than the former relapse into wonted apathy, and self-satisfied, though false, security; while the latter generally retire from the vantage-ground which many of them so beneficially occupied, until a new note of alarm again excites to action: then the same scenes once more take place,—floods of sanitary literature re-deluge the press: again comes a lull: anon, apprehension and bustle, as before,—and so on: thus, between excitement

and inaction, fervour of exertion and cold indolence, all seem to labour under a kind of moral ague! Certainly there are exceptions, though few, where the people and the authorities exhibit some practical wisdom in their unrelaxing efforts to improve the sanitary condition of the localities in which they are most interested; and some medical sanitary reformers, either by their personal exertions or through the press, endeavour to fix the public mind upon the beneficial results which must accrue from the due observance of hygienic principles.

Among the latter, the author of the Treatise under consideration must be admitted now to occupy a conspicuous place, and to have produced one of the best and most comprehensive books yet published on the subject, and that, too, under difficulties of no ordinary kind. On these difficulties, the author offers the following observations in his introduction:—

“With the exception of the substance of a few articles, published some years since in a London medical review, the whole of the materials of this Treatise have been collected at Chittagong, during the unfrequent intervals of leisure allowed by extensive medical duties. This is, assuredly, no valid excuse for the enunciation of defective principles; still, some allowance may be claimed for the scantiness of statistics gathered at a remote India out-station, under the disadvantage of a slow and limited supply of books, and without the aid of a single correspondent;—as well as for admitted narrowness in the views on political economy entertained by a writer who merely lays claim to a knowledge of medicine, and who presumes to anticipate no more allowance from his readers than a concession of the principle ‘*Quisquis suâ arte credendum est.*’ ”

Then he very justly adds,—

“Nevertheless, the following pages contain details the collection of which, it is trusted, will save the reader a good deal of tedious and laborious reference; while in the aggregate they may furnish a sufficient introduction to the subject for those who are desirous to join in the great work of spreading the benefits of sanitary reform at home and in the colonies.

“Further, the author ventures to believe, that in the correlation of these facts, and in the deductions gathered from them, a first approach has been made to the desideratum of blending the principles of the English sanitary system into the form of an independent science: hence these chapters are submitted to the public and the profession.”

We are not aware of any previous publication in this country which reduces the principles of sanitary reform into anything like the same systematic arrangement as that observed



by our author, to whom may be justly awarded the credit of having first reduced "the principles of the English sanitary system into the form of an independent science;" nevertheless the book is popular enough to recommend it to the serious attention of the public; and we feel that no one can rise from a perusal of Dr. Chevers' volume without being impressed with the vital importance of the matters submitted to discussion, and the ability with which its accomplished author has entered upon this most interesting and comprehensive subject.

The first section of the book is devoted to a consideration of the "Removable and Mitigable Causes of Death, their Modes of Origin and Means of Prevention," and opens with the following important and unquestionable enunciation:—

"During the past century, statistical research has developed two extremely important facts in the physical history of mankind, namely, that the mean duration of human life is generally less than half that of the three score and ten years commonly assigned as the term of man's existence; but that, on the other hand, communities have it, to a certain degree, in their power to diminish and restrain the causes by which the lives of their members are thus abridged; and it has become evident that, in consequence of the judicious employment of this power, the average duration of life amongst us has been for many years slowly but progressively on the increase."

This statement, and the facts on which it is based, would, if known and properly understood and appreciated by the community at large or the authorities, certainly lead to a course of conduct different from that usually pursued, and to which we at first adverted; and well would it be for mankind if those who have the power of legislating were to ponder on the truth of, and act on a similar belief to that with which our author is impressed, and to which he thus forcibly gives utterance:—

"Foremost among the duties of the physician and of the legislator stands the obligation of investigating and remedying the causes which have led to the present deterioration of human life. While mankind in civilized countries continue to fall under the self-imposed curse of dying, in the generality of instances, before the expiration of their prime, ere the natural and irresistible advances of age have commenced their inroads, all learning, art, and science, must yield in importance to the great object of improving the PUBLIC HEALTH of communities.

"There must be something morally as well as physically degraded in a people who have sacrificed the power of attaining old age. If it be true, as it assuredly is, that to live worthily and to live long are the two chief desiderata of man's condition, any horde

of robust savages are to be regarded as our masters in the art of obtaining the second object of human existence."

How humiliating to feel that after all our boasted moral and physical advantages over uncivilized peoples, many of them surpass us in obtaining what Dr. Chevers calls "the second object of human existence." With respect to the legal prevention of disease he makes the following strictly correct observations, and well would it be for society were the powers of the lawmakers directed to the end at which the author aims. He says:—

"The resources of the physician may do much in anticipating and in relieving disease in detail; but the power of the lawgiver, if well directed, may do infinitely more in adopting salutary measures which, when properly carried into effect, must materially check the development of large classes of the most destructive maladies. It is demonstrably a fact that, to mankind generally has been given the power of maintaining their own existence for a given period—say seventy years; but the accumulated ills and errors of centuries have, in a great measure, prevented this power from being exercised by the individual; thus, no care or moderation on his own part can enable the sickly and half-starved offspring of an ill-fed, vicious, and diseased race, inhabiting a dark and squalid hovel, in a badly drained and pestilential district, to avoid altogether the assaults of the sickness by which he appears to be doomed to an early death; but the Legislature possesses to a certain extent the means of averting from him this evil, and of almost freeing his descendants from the injurious influences under which he suffers. He has not the power of removing from the over-populated neighbourhood in which he lives, where the excessive accumulation of human beings, and the consequent impossibility of their receiving proper support, renders a high rate of mortality among them a necessary and merciful dispensation: but new and productive lands are open to him. The Government may enable him to emigrate. He cannot avoid the pestilential exhalations of the unhealthy quarter in which his dwelling is situated, but the municipal authorities may correct this evil. He must either work for an undue number of hours, at an unwholesome trade, in a badly ventilated manufactory, or resolve to meet death by starvation; but the law may compel his employers to place upon him no kind or amount of labour beyond that which he is able to bear, and to provide for the proper ventilation and cleansing of the work-rooms in which he toils. He cannot, it is true, throw off the faults of constitution which have descended to him from his poorly nourished and intemperate forefathers; but the Legislature (in providing that his remuneration shall be sufficient to procure wholesome food and proper shelter for himself and his family, and in removing from him, to a considerable extent, the temptation to the destructive use of spiri-



tuous liquors) may succeed in prolonging his life, and in rendering his progeny a comparatively healthy race."

These views are neither extreme, nor, as some might imagine, Utopian; we may not hope to see remedies all at once applied to the many evils that surround the poor, but we trust that the period is not far distant when the Legislature will feel it an imperative duty to improve the physical condition of the labouring classes, by enforcing an observance of those salutary principles of hygiene which avarice on the one hand, and ignorance on the other, have caused to be despised;—when municipal authorities, and public bodies possessing like power, shall look upon sanitary police as the very highest of the social requirements, the care of the public health their primary consideration;—when those who look upon disease as the *necessary* result of man's primeval fall, fit retribution for his disobedience, will take a more benign view of the case, learn that much of his temporal affliction is self-imposed, and that it is no transgression of the divine law for man to seek the extension of the usual limit of his life, or to feel that it is within his own power to increase the present term of human existence. The ascetic who considers or says that disease is a direct visitation of wrath from the hand of God, and who therefore forbids us to trust in any human effort, would certainly place a great stumbling-block in the way of the sanitary reformer, if such *vis inertiae* was based either upon divine revelation or reason; but as it is manifest that any such deduction is false, it is to be hoped that there are few so shallow as to follow a course fit only for blinded fatalists to pursue. Disease is either preventible, or it is not:—if preventible, as it doubtless is, what is our reasonable course? Hear what Dr. Chevers says upon this subject. After stating that "physicians, in reviewing the history of disease, can discover no form of painful or destructive malady which bears in itself the united characteristics of an *invariable, essential, and inevitable* portion of the divine plan in limiting the term of human existence,"—he goes on to say:—

"Prophylaxis, or the means of anticipating and preventing various diseases in individual cases, has always formed a leading part of the physician's duty; but the means of searching into the original causes of general diseases, and of preventing their development in the aggregate, constitute a new science, which, though still in its infancy, gives promise of assuming eventually a position, as a system, of exact and essentially philosophic principles, far more exalted than our present art of treating disease in detail can ever attain.

"In this age, sanitary reformers have learned that the only sure

mode of obviating large classes of destructive diseases is to attack their causes at their very source. The great causes of pestilence are found to arise, death-laden, from morasses, and fens, and oozy, alluvial flats; to hover in the poisonous exhalations from fetid sewers, reeking slaughter-houses, manure heaps, and graveyards in which the dead are packed in bulk; to spread from the destructive vapours which, issuing from chimneys, gas works, manufactories, and crowded assemblies of human beings, hang like vast palls between our great cities and the sunlight; to originate from the overlabour or the hopeless inactivity of large classes of mankind, their wants, their vicissitudes, their excesses, and their moral defects."

These are among a few of the causes which originate disease: there are other fertile sources, which are alike palpable and removable as the evils just enumerated evidently are; but then the great difficulty is, not in perceiving these evils, but in applying the proper remedies. There is such a mass of ignorance and selfishness to be overcome, prejudices and opposition to be combated, vested rights and interests to be met, that the work of sanitary improvement is impeded at every step, and the philanthropist is rendered almost hopeless of his efforts to ameliorate the condition of man; and, indeed, there never can be a thorough assault made upon the most prolific sources of disease while the Legislature esteems sanitary matters as not even of secondary consideration, or while it yields to the clamour and selfish demands of those who, at the expense of the lives of the community, claim the observance of vested rights;—or while it will not decree that no person can perpetuate aught which is injurious to the public health, when even the individual may show that he has acquired a "vested right" in it! It is clear, that until the Legislature shall decide that all such noxious interests shall cease; that no one can have a vested right in ponds of stagnant water in cities and towns, the receptacles of every abomination,—in open ditches, cesspools, and manure heaps, the prolific generators of pestiferous exhalations,—in reeking slaughter-houses, and graveyards overflowing with rottenness, alike disgusting to the senses as unquestionably detrimental to health,—in manufactories of various kinds, which vomit forth their noisome gases and suffocating smoke every hour of the day;—till then, and *not till then*, may the sanitary reformer hope to make sure progress in his truly civilizing vocation. It is absolutely necessary that the Legislature should take this momentous duty upon itself, and enact a general and *sweeping* law upon the subject, not leaving it in the power of this body or that body to adopt or refuse the introduction of hygienic laws,—



for any corporation, the members of which may themselves be interested persons, to deny to their locality the benefits of health regulations, as we have seen in more than one instance, and from besotted ignorance, a grovelling disregard of all decency, or a slavish courting of vulgar popularity, refuse to adopt either those national measures applicable to sanitary improvement, or those local enactments which give them the power of dealing summarily with many of the most grievous public wrongs. We feel, as regards this subject, it is a duty we owe our profession to say, that many of its members have spoken frequently and forcibly, and that, throwing aside all personal considerations, they have entered heartily into devising the best means for removing the sources of preventible disease; but while we say so, we must also state, that others have either sneered at sanitary matters—perhaps from want of due consideration of the subject, or from some undefined reason, have treated them with cold indifference. To the one class we would repeat, persevere in your laudable efforts, regardless of any result but the promotion of the public good; to the other we say, reconsider your position, and ponder well whether it is honest, generous, or even *prudent*, to hold back from, much less condemn, a pursuit which, though not *now* appreciated, must place the medical profession in the most noble and dignified place which men can occupy, that of leaders in the march of moral and physical improvement, in social civilization, in increasing the span of human existence, its happiness and usefulness, and in developing the highest resources of our honourable art!

After fully discussing the removable causes of death and the means of prevention, Dr. Chevers goes on, in the second section of his book, to inquire into “the modes of encountering removable causes of death.” These he considers under twenty-five separate heads, and gives to each a due share of attention. In a notice like the present, it is evident that we cannot even enter upon an analysis of each of these divisions; we shall therefore content ourselves by laying before our readers the heading of the several subjects discussed, from which it will be seen that Dr. Chevers has left little, if anything, in this important question which he has not duly considered in relation to man’s temporal welfare, the promotion of his happiness, and the prolongation of his existence:—

“We have seen that a large proportion of the deadliest and most prevailing diseases are the results of circumstances which it is in the power of humanity to control, and, perhaps, eventually to remove altogether; that, although the universal gift of old age can be looked for only among the blessings of the promised millenium,

the power of considerably extending the term of his existence lies tangibly within the grasp of man, and that this faculty of moderating the great causes of death rests with the lawgiver rather than with the physician.

“ We have now to consider some of the legislative measures and social rules which are obviously necessary for the diminution of the most prevalent causes of disease, and for the general prolongation of human life. The following appear to be the most requisite:—

“ The encouragement of emigration from over-populated districts to healthy and productive colonies.

“ The embankment of rivers, and the draining and cultivation of marsh and waste lands.

“ The infliction of heavy penalties upon all persons found guilty of adulterating any medical drug or any article of sustenance, or of vending the flesh or milk of ill-fed or diseased animals.

“ Restriction in the sale of ardent spirits and of other intoxicating drinks.

“ The proper building, ventilation, lighting, and drainage, of houses, particularly those of the labouring population.

“ The abundant supply of pure water to towns.

“ The proper cleansing of all streets and thoroughfares.

“ The clearing, regardless of opposition or expense, of all confined and notoriously unhealthy districts of cities, and the partition of the spaces of ground thus obtained as the sites of appropriate dwellings for the poor.

“ Prohibition of the intramural burial of the dead.

“ The removal of all cattle-markets, slaughter-houses, piggeries, tan-yards, gas-works, &c., beyond the confines of towns.

“ The general adoption of means for consuming the smoke of towns.

“ The erection of all extensive manufactories at the distance of at least two miles from the confines of large towns, with the provision of their being constructed in healthy situations, with proper regard to security, ventilation, warming, &c.

“ Prevention of the retail sale of poisons.

“ The suppression of all those trades which, while they produce no substantial benefit to the community at large, entail almost certain destruction of life or health on those who practise them; and the careful modification of all those useful trades or occupations which are attended with danger to health or risk of life.

“ The due remuneration of the working classes (especially in the manufacturing districts), and the proper limitation of their hours of labour.

“ The opening of baths, wash-houses, and places of exercise, for the use of the working classes in the vicinity of crowded cities and in manufacturing districts.

“ The establishment, upon an extensive scale throughout the country, of houses of temporary refuge for the destitute, where medical aid may be received, as well as assistance in obtaining proper employment.



“ The introduction of better and more liberal rules than are at present in operation for the medical relief of the destitute sick, and for the support of incurable patients.

“ The establishment of judicious systems for the reduction of the mortality in lunatic asylums, gaols, and workhouses.

“ The adoption of measures encouraging the poor to bring their children to be vaccinated.

“ The employment of means tending to reduce the mortality among the children of the poor.

“ The maintenance of a strict hygienic system among sailors and soldiers, at home and abroad.

“ The enforcement of a well-conducted system of quarantine, whenever the introduction of pestilential disease is to be apprehended.

“ The strict prohibition of the practice of medicine and surgery, as well as the sale and compounding of drugs, by unqualified persons.

“ The gradual introduction of regulations calculated to improve the *morale* of populous districts, and to diffuse religious and useful instruction among all classes of the people.”

These are the divisions or chapters into which Dr. Chevers divides his subject. A few of the matters referred to have, as the author remarks, long been observed, either under legal provision or from humane motives; but the great majority of them are still untried, and without any legal enactment to enforce, or social consent to sanction, their observance, though the sanitary reformer sees the necessity for these or like comprehensive measures being enjoined by legislative interference.

We regret that we are precluded from entering more fully into the subject of Dr. Chevers' excellent book; but we cannot dismiss it without saying, that by its publication he has done much for the cause of sanitary reform, especially as it is written in a clear, popular style, and embraces every material point in connexion with the question.

We fear, however, that the time has scarcely arrived when even the most useful and popular work on hygienic medicine and police will meet with due attention from the public, and to which the publication under notice is most decidedly entitled. There are such lax views on the matter,—so many selfish interests opposing it,—there are so much apathy, ignorance, and vice in the world, that until education, especially of the masses, has made more progress, we can scarcely hope to fix the popular mind upon a subject which, although of vital importance, is still too commonly viewed as one of the mysteries of medicine.

If this Treatise were issued in a condensed and cheap form, and *if people could be induced to read anything* on vital

statistics, we are not acquainted with any book previously published on the subject which is calculated to do more good, or spread more sound and enlightened doctrines; but from the negative elements to which we have referred, we believe that the most popular book of the kind would not be extensively read, especially during the lull which has succeeded the late epidemic explosions. The first great fillip to sanitary progress must, as we have said before, be given by the Legislature, in enforcing due observance of its primary principles; then, also, should these principles be made a part of elementary and general instruction in schools and colleges, so that every one who receives even an ordinary education must in some measure become acquainted with them. Were this great desideratum in popular instruction once accomplished, then would Dr. Chevers' able Treatise be an admirable text-book for either scientific or popular instructors; and we trust that we shall yet see it in this position, to which we regard it as justly entitled.

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*Topografía Médica de la Ciudad de Málaga.* Por D. VICENTE MARTINEZ Y MONTES, Jefe facultativo del Hospital Militar de Málaga, etc., etc. Málaga, Circulo Literario. Imprenta de D. Ramon Franquelo, 1852. 4to., pp. 577.

*Medical Topography of the City of Malaga.* By DON VICENTE MARTINEZ Y MONTES, principal Medical Attendant of the Military Hospital of Malaga, &c., &c. [With a Plan of the City, by Don Rafael Mitjana, Architect.]

*Change of Climate considered as a Remedy in Dyspepsia, Pulmonary, and other Chronic Affections; with an Account of the most eligible Places of Residence for Invalids in Spain, Portugal, Algeria, &c., at different seasons of the year; and an Appendix on the Medical Springs of the Pyrenees, Vichy, and Aix-les-Bains.* By D. J. T. FRANCIS, M.D., &c. London: Churchill. 1853. Royal 12mo., pp. 339.

*Climate of Italy in relation to Pulmonary Consumption; with Remarks on the Influence of Foreign Climates upon Invalids.* By T. H. BURGESS, M.D., &c., lately Physician to the Blenheim-street Dispensary. London: Longman, Brown, Green, and Longmans. 1852. 12mo., pp. 206.

OF the three works, the titles of which are given above, we give precedence to that of the Spaniard<sup>a</sup>, as an acknowledgment

<sup>a</sup> The translations from the Spanish in this review have been made by Dr. W. D. Moore, as also the reduction of the Scales to suit the English reader.



of many civilities received by us from his countrymen, whom we regard as one of the most ceremonious races of civilized Europe; the work, however, is evidently that of a painstaking observer, and the Medical Topography of Malaga, by D. Vicente Martinez y Montes, is a publication of no ordinary merit, as emanating from the Spanish provincial press, tending, moreover, to afford the solution of a problem which we have more than once debated, as to whether Spain still possessed literary pretensions sufficient to entitle her to rank with the scientific and progressive nations of the world. After a careful examination of its contents, we at once freely admit its title to a position amongst the useful productions of the day; and are inclined to think that a vast amount of literary talent lies dormant in the native country of the author for want of adequate inducements to draw it forth: just as we know her natural resources and mineral wealth are inexhaustible, but lack the capital and energy of an industrious people to turn them to account. In this cursory review of an elaborate work on the topography, natural productions, climate, history, diseases, moral, intellectual, and industrial state of Malaga, we mean to confine ourselves to the sections on its climate and diseases, being those which we consider most interesting and important to the physician. As, however, the geological formation of a locality ought always to be considered in reference to its climate, we may premise that the district of Malaga presents in some parts the characters of the secondary or cretaceous, in others, of the supra-cretaceous or tertiary formation.

The mean annual temperature of the town during nine years, from 1837 to 1848, both inclusive (1842-3-4 being, however, omitted), was 66·452 F. In each of the four seasons the mean temperature was as follows<sup>a</sup>:—

Winter,	. 55·61 F. (January, February, and March.)
Spring,	. 68·5 F. (April, May, and June.)
Summer,	. 80·38 F. (July, August, and September.)
Autumn,	. 61·3 F. (October, November, and December.)

The mean annual height of the barometer during the above nine years is given as 29·7936<sup>b</sup>:—

Winter,	. . . . . 29·7794.
Spring,	. . . . . 29·7519.
Summer,	. . . . . 29·8897.
Autumn,	. . . . . 29·7952.

<sup>a</sup> The thermometric readings have been reduced from the Centigrade to Fahrenheit's scale. The division of the seasons are the author's.

<sup>b</sup> The barometric readings are reduced from millimetres to English inches.

The relative frequency of the several winds at Malaga for the same period is given as follows:—East, 988; South-east, 517; South, 429; South-west, 714; West, 779; North-west, 858; North, 443; North-east, 347.

“The winds are given in the order of their rotation:—If, for example, the day breaks with a west wind, at midday it will be either N. W., or N., or N. E.; in the evening, E. The E. is followed by S. E. or W.; I have never observed the contrary direction. Frequently the transitions are more rapid, the intermediate winds not being perceived; that is to say, from the E. it changes to the W., or *vice versâ*. The Table shows the times that the different winds have prevailed in the years which have served as a basis for the deductions I have given, which also agree with the observations taken by myself.”

Tables showing these particulars for each month are given by the author. January is, on the average, the coldest month, the mean of the nine years being  $53^{\circ} 1' \text{ F.}$  The lowest temperature given in the Table is  $42^{\circ} 9'$ , noted in February, 1839. The hottest month is August, the mean being  $81^{\circ} 89'$ . The highest temperature given in the Table is  $98^{\circ} 15'$ , in September, 1847. Once, on the 29th of August, 1851, the author observed it hotter, the thermometer standing, during a burning land-breeze, at  $104^{\circ}$  in the shade.

The mean annual quantity of rain deduced from the five years—September, 1846, to August, 1851—amounts to 15.9842 English inches.

The state of the atmosphere in the nine years above mentioned was,—clear, 1974 times; cloudy, 691 times; rainy, 262; with light clouds, 988; foggy or misty, 16; and tempestuous, 3 times.

“It will thus be seen that the rainy days bear a very small proportion to the fair. The greatest number of rainy days was in January; this diminishes very gradually until the end of May; rapidly in June, July, August, and September. During these latter months it rained in the nine years only twice in June, three times in July, twice in August, and four times in September. This want of rain would be more prejudicial, both for plants and animals, in an inland town, but the proximity of Malaga to the sea prevents these bad effects. The evaporation continually taking place from the waters of the Mediterranean, in consequence of the more or less elevated temperature of the day, occasions at sunset a deposition of dew, which is in some localities, especially those nearest to the sea, so copious as to give an appearance as if rain had fallen; the hygrometer showing a different proportion in the humidity of the air for each month of the year.”



In the third part of his work Señor Martinez enters on a consideration of the sanitary state of Malaga; and, after some prefatory remarks, presents us with a Table of the several epidemics which have visited that town, and of the dates of their appearance, commencing with the ravages of the plague in 1348. The greater number of these epidemics prevailed throughout the whole Peninsula, and, consequently, were not due to any peculiar conditions of the city; the others, with the exception of catarrhs, typhus, and fevers of various kinds, were also imported. Excluding these, the epidemics were the same as those which made so many victims in other parts of the world, being the result of the combination of physical, atmospheric, or moral causes: the last known, while of the former we are probably destined always to remain in ignorance; they consisted in several attacks of plague, a visitation of black vomit, two of yellow fever, and lastly, in 1833, one of cholera morbus. Among the fevers, typhus prevailed in 1719 and 1738, and camp fevers in 1751. On the whole, the author refers to the occurrence of twenty-four epidemics between 1348 and 1833, and considers that they raged in consequence of deficient hygienic arrangements. To this conclusion he was led by considering the mildness of the climate, the purity of the air, the goodness of the water, the abundance of food, and the absence of marshes and lakes, of occupations prejudicial to health, and of other elements in the causation of endemic diseases.

Notwithstanding all that the author has, in a previous part of the work, pointed out for improvement, he states his conviction that the sanitary condition of Malaga is very good, and comparable to that of any of the most healthy cities. In support of this view he appeals to the proportion of deaths to the population, which is more favourable than in many other capitals having greater resources for putting in practice all that hygienic science can suggest; and he points out that in Malaga there are no endemic diseases. He further refers to the longevity of the inhabitants, and shows, by Tables, that in the decennial period 1840-1849, fifty-six individuals attained to upwards of one hundred years, one of whom reached the great age of 115. The number of those who lived to above 60, 70, 80, and 90, is proportionally great.

The second chapter of this division of the volume contains some Tables, the first showing the diseases which prevailed in Malaga in each month of the year 1851, and the number of cases which occurred of each disease; the second is a similar Table for the military hospital, but more valuable, as it extends over ten years; the third, likewise arranged in monthly co-

lums, exhibits the number of crimes committed during five years, under the heads of contusions, wounds, homicides, suicides, and rapes. The number of suicides appears remarkably small, being only eight for the five years.

The total number of cases of illness in Malaga, exclusive of the military hospital, in 1851, was 4530, the most numerous class of diseases being the gastro-enteric, which amounted to a total of 961. In the military hospital these were also the most frequent, constituting 2001 of 5686 cases of illness which occurred in the ten years. The population of the city is upwards of 80,000.

“Among the affections comprised under the head of diseases of the respiratory organs, we have,” observes the author, “pneumonia and pleurisy, either simple or combined, the latter being the more common; bronchitis or catarrh, varying from the slightest to the most intense degree, an affection which is five or six times more frequently met with than the others; hemoptysis, which is very rare; laryngitis, with hooping or convulsive cough and croup or quinsy,—the former terrible for its obstinacy, the latter for its severity, which two diseases usually prevail epidemically, in consequence of certain conditions of the atmosphere which often cannot be explained. These, with the exception of the last, frequently pass into the chronic state: we have also phthisis, but so rarely that of 4530 patients during the period we speak of, only 65 were cases of this disease.”

In the Table we find 30 cases of apoplexy. Finally, 137 cases of small-pox show how shamefully vaccination is neglected, as well as the necessity of promoting the use of this precautionary measure by all possible means. The author next deplors the large number of syphilitic cases presented in the Table—they amount to 675; and lastly remarks that the number of wounds (242), occurring in the space of twelve months, is a disgrace to a refined and cultivated city like this, and points out the necessity of correcting the vice of intoxication, to which especially such occurrences are attributable.

Of the diseases of Malaga, thus in a general way described, the author observes that some are due to topographical, others to atmospheric, and the smallest number to special causes. The temperature, of which an account has been already given, and the dry state of the atmosphere—the constant change of wind even in the same day exciting the circulation and closing the pores, predispose some individuals to, and in other persons directly develop, inflammatory affections, though the latter are, generally speaking, not so intense as they are observed in cold countries:—



“ These phlogistic effects are principally observed when the land or north-east breeze prevails. This wind, commonly hot and burning, produces bad effects both on vegetables and in human beings, causing in the latter violent pulmonary and cerebral congestions.”

The author proceeds to inquire whether the north-east or east wind is the more healthy, and quotes some passages from a work entitled *Conversaciones Malagueñas*, to show that the opinion of the older writers was in favour of the former. He is, however, of opinion that both theory and facts are opposed to this view, and observes, that the north-east wind, burning in summer, cold in winter, produces, both in healthy and sick individuals, an excitement and tension which aggravates chronic complaints, especially such as are of a phthisical nature. Moreover, it augments the heat of the body, dries the skin, checks the slightest perspiration, and thus produces congestions of every kind,—above all, those of the brain. He refers to the table of criminal statistics we have already mentioned to show, that injuries to the person, homicides, and suicides, occur much more frequently during the prevalence of this wind than at any other time, and adds, that it undoubtedly causes other affections of the encephalon than those which are attended with violent inflammation, disturbing the functions of the cerebral organs, and producing paralysis, a disease very common in Malaga.

“ The east wind does not produce these changes: cold and damp at all times, but more so in winter than in summer, it causes rheumatism, but not paralysis; numberless catarrhs, pneumonias, pleurisies, violent hemicranias, and neuroses of various kinds, sometimes by its own direct impression, sometimes by suppressing the perspiration produced in the cold season by the least exercise, and which occurs in summer without exercise; it predisposes also to some affections of the digestive apparatus, these organs losing the strength requisite for the fulfilment of their functions; still, its bad effects are neither so general, nor of so great intensity, as those occasioned by the other wind; and, therefore, I consider it to be more healthy.”

The author makes a few observations on the diseases peculiar to certain trades; these scarcely call for our attention, as they differ little from those which are found in other parts of the world. In a cotton factory it was thought that the inspiration of the dust of the cotton produced irritation and inflammation of the laryngo-bronchial mucous membrane. Some practitioners imagine that a species of erythema was caused by contact of the skin with the same, and spoke of ophthalmia provoked by its reaching the eyes. Herpetic eruptions prevailed

in the portions of the town occupied by fishermen, and hydroceles were common in a district almost exclusively inhabited by coopers.

The remaining chapters of Don Martinez y Montes' work abound in general information respecting Malaga and its vicinity. The volume is brought out in a creditable manner, is printed in a large and distinct type, and is accompanied by a lithographed plan of the city on the scale of 240 varas or yards to the Spanish inch.

We gladly greet a new English work on climate, particularly as it purports by its title to treat of districts as yet little known, and in our opinion not sufficiently appreciated by the public and the majority of the profession. The climates of Spain, Portugal, and Algeria, have only of late attracted any degree of attention, and that mainly through the instrumentality of rapid, safe, and constant steam communication to and from the principal ports of the Peninsula, and the somewhat notorious French possessions in Algeria. However, the very facilities afforded by the improvements of modern travelling, rather throw difficulties in the way of an observer trying to acquire correct statistical information as to the relative merits of different localities, for he is too apt to be led on, tempted from place to place, and thus, from a necessarily short sojourn in each, to acquire imperfect information regarding all, being obliged to trust to the data of others, ignorant, perhaps, of the peculiar circumstances under which such data were obtained, and the amount of attention or negligence displayed in their compilation. Dr. Francis informs us in his preface, that a prolonged professional engagement, as well as a subsequent residence in Italy, afforded him the opportunity, during upwards of five years spent in different countries abroad, of studying the subject of which he treats. Two of these winters were passed by him in Italy, the other three in the Peninsula. The first chapter opens with a comparison of the respective climates of the countries he resided in, and an attempt to account for the fact of the superiority of that of Spain over those of the south of France, Italy, Malta, and Greece, being so long overlooked. The more southern latitude of the Peninsula is dwelt on as affording many advantages over the more northerly places of common resort in Italy. The latitudes of Rome and Naples, for instance, are respectively  $41\frac{1}{2}^{\circ}$  and  $40\frac{1}{2}^{\circ}$ , whilst that of Malaga is  $36\frac{1}{2}^{\circ}$ . The aspect of the latter is also highly spoken of as contrasted with that of the two former, and the prevailing winds of each partly accounted for from the physical disposition



of the two countries. The results of all comparisons tend to show the great superiority of the climate of southern Spain over that of Italy.

The book is divided into two parts: the first consisting of observations "On Climates in general;" the second "On particular Climates."

Under the first heading, the author treats not only of the comparative merits of different climates, but also of the diseases likely to be benefited thereby. This arrangement may, perhaps, suit the unprofessional reader, but for our part we much prefer that of Sir James Clark, who, in his standard work, first considers "climate," and secondly, "the diseases benefited by climate."

Dr. Francis, wisely, in our opinion, gives only an incidental notice of the climates of England: "Not," as he says in his preface, "from a distrust of their remedial merits in some states of deranged health, but from the fact that they have already received attention from previous authors." In comparing the climates of Algiers and Malaga with that of England, we find it stated as follows:—

"At Malaga exercise may be taken, and several hours passed in the open air, almost daily throughout the winter. There is a comparative absence of rain; for we shall see hereafter that the average number of days on which rain falls in the year is, at the utmost, only 40. Now, in the mildest spots in England, supposing that we escape frost and severe cold, it is necessary to reckon upon 150 rainy days in the year (Torquay, 132; Penzance, 178; Hastings, 153), besides a certain amount of fog, damp, and clouded atmosphere. For the invalid this implies the necessity, on many days, of taking exercise indoors if he take it at all, and it implies an imperfect ventilation."

Under the head *choice of climate*, the author offers many useful hints, which invalids would do well to follow. The advantage of moving about from place to place, either at home or abroad, is justly acknowledged by him as often more serviceable, in certain forms of indigestion, than a continued abode in any one locality. Equestrian exercise, in a country like Spain or Portugal (he might have added Greece and Syria), where it is the custom to travel on horseback, is recommended as one of the best means of acquiring a stock of rude health. Of this we ourselves have had practical experience, as well as of the harmless assaults of a certain active insect which seems never to sleep.

Dr. Francis gives but a very short notice of Gibraltar, and

in our opinion has hardly stated its full claims upon British invalids. True, the Rock itself possesses few attractions for such as are averse to confinement, but the neighbourhood of Algeciras and San Roque will, for a change, satisfy most; or if the wanderer chooses to cross the Straits, he is in a few hours conveyed to a country of surpassing interest, the opposite coast of Barbary, where he can have comfortable accommodation at Tangiers, and at the same time, while here enjoying the genial warmth of an African climate, have an opportunity of remarking the manners and customs of an uncivilized race of white men, the Moors, and of contrasting them with their dark brethren of the desert, the Bedouin Arabs.

The author has devoted two chapters to the consideration of the climate of Malaga and its environs; but as we have so fully noticed Dr. Martinez' able work upon that subject, we can afford to be brief here. He states,—“There is no place in Spain, nor in the whole of Europe, so far as our present information goes, that possesses a climate at once so mild and equable, with so little variation from day to day, and from day to night, as Malaga.” In these respects it is superior to the climate of Egypt, which, we think, ought to rank first, were it not for the striking variations of temperature between day and night, which all voyagers upon the Nile must have frequently experienced, and invalids, no doubt, on many occasions have suffered from.

The mean daily range of temperature at Malaga is only  $4.1^{\circ}$ ; the mean winter temperature Dr. Francis gives at  $54^{\circ} 41'$ ; the mean annual range of temperature is  $49^{\circ}$ .

Mr. Mark, the British Consul at Malaga, bears testimony to the healthy condition of the town, notwithstanding the disadvantages of a crowded, poor population and a great deal of misery. “The salubrity of Malaga,” he says, “is surprising and scarcely credible; sometimes two or three days pass without a single death throughout the city.” The mortality appears to be unusually large, nevertheless, in infancy and childhood, partly owing to the abandonment of infants by their mothers, a practice general throughout the Peninsula. “Thus we find that in Malaga 23.4 per cent. of the population die during the first year of life, and 42.3 per cent. during the first five years.” On the other hand, the longevity of the people is remarkable after attaining maturity. “Persons of from eighty to ninety years of age may be seen going about the streets with the full use of their faculties.”

Dr. Francis closes a glowing account of Malaga with a short notice of Torre Molinas, a little village about two leagues



west of Malaga, remarkable for the salubrity and invigorating character of its climate. He also notices Alhaurin and Ronda as cool retreats for the invalid during the summer months. The latter is four thousand feet above the level of the sea, and, if we are to believe a Spanish proverb, the most healthy situation in the world:—"En Ronda los hombres de ochenta años son pollones"<sup>a</sup>.

The second part of the book is devoted to an account of particular climates. He first offers some general remarks on the climate of the Peninsula, considered as a whole, then divides the different climates into the littoral and those of the interior, taking each seriatim, and giving in detail what information, experience, and statistics, he was enabled to obtain whilst resident in the country. Describing the climate of the south-eastern coast, he observes: "The air is decidedly dry, especially in the centre, about Alicante and Valencia, where the land, unless artificially watered, is in many parts barren. More of humidity occurs as we approach the Straits of Gibraltar, on the one hand, and the French frontier on the other." Under the head of Madrid we read the following just condemnation: "It is unhealthy; and to invalids, unless the greatest care is taken, even dangerous." This is explained by the peculiar situation of the town, in the midst of an arid plain, elevated 2113 English feet above the sea, and exposed to the icy blasts which descend from the snowy crests of the Guadaramma range, not many leagues distant to the north of the city, without any intervening forests to temper and break their violence. With this fact before us, it does not require statistics to prove the ungenial character of its climate; with the latter, however, he has furnished us liberally; nor need we have been told "that the duration of life is short." The following hint, however, may be useful to any who are compelled to reside there, and wish to avoid pneumonia or a colic: "Flannel, voluminous enough to cover the abdomen, as well as the chest, should be worn in all seasons." The neighbouring resorts of Aranjuez, La Granja, and the Escorial, are touched upon, and their several merits, as places of retreat from Madrid, allotted to each.

The description of Lisbon, and the delightful neighbourhood of Cintra, occupies a full chapter, in which we find an interesting account of that loathsome disease, leprosy, which would appear to be more commonly met with in the capital of Portugal than in any other city of the Peninsula. Its climate is described as inconstant, and fluctuating between the extremes

<sup>a</sup> "At eighty years old the men in Ronda are still chickens."

of dryness and moisture; the change of temperature, too, being often sudden as well as remarkable.

An account of Seville and its attractions occupies another chapter. As a winter residence for invalids it is decidedly inferior to Malaga, but the spring months are delightful; our own recollection of the balmy, soft air enjoyed by us in the month of March, 1852, will never be effaced from our memory.

Cadiz is next considered, and its peculiar situation and other points of practical importance brought under our notice. The longevity of its inhabitants being conclusively proved from a Table of mortality for seven years, which includes no less than forty-three centenarians. "The mean annual temperature of Cadiz is 62.75, being two degrees warmer than Rome and Pisa, six than Pau, and one than Naples, but colder than Madeira by two, and than Malaga by nearly four degrees." The average number of rainy days for the year is 99. In cases of dry asthma, and in organic affections of the heart accompanied by dyspnoea, the climate of Cadiz is worthy of a trial. Granada and Cordova may be reached also from Malaga, and when visited at a proper season will not only afford objects of great interest, but their climates may be conducive of health in certain forms of dyspepsia, &c. "The summers of Granada are very hot, and the winters cold; but the spring climate is delicious."

The winter climates of Almeria, Carthagen, and Alicante, are severally described; the latter, as the driest to be found in Europe. The author states, that "Alicante offers advantages, as a place of residence for persons with delicate chests, far superior to those of many of the places at present resorted to for that purpose."

The climate of Valencia, next treated of, is subject to some disadvantages, from which those last described are exempt, for instance, the plain is now extensively irrigated for the cultivation of rice, rendering the surrounding atmosphere more or less humid,—therefore it is not recommended so highly for phthisis, but some forms of bronchitis may be benefited by a residence there during the winter months. "The mean annual temperature is 63.5°; that of winter 49.7°; of spring 60.7°; of summer 78.8°; of autumn 65.7°. These numbers may be advantageously compared with those of many other places of winter resort."

Barcelona possesses some claims as a temporary residence for invalids, but should be avoided when there is a tendency to irritation or inflammation. Rain falls on sixty-nine days, rather a high average as compared with other localities on the



east coast of Spain, probably owing to its proximity to the Pyrenees.

The climates of the north coast of Spain are next described, but as they appear to be little removed in character from that of the south of England, they do not require any special notice from us.

An accurate account of the climate of Algiers was much to be desired, and we have not been disappointed in Dr. Francis' chapter on it; he informs us that—

“The mean annual temperature of Algiers is  $64^{\circ}$ , nearly identical with that of Madeira, but lower than that of Malaga. January is the coldest, August the hottest month. Rain falls on fifty-seven days and fifty nights in the year: the annual quantity is thirty-seven inches. Sometimes the rain is very heavy, and occasionally lasts for thirty-six hours at a time. Fogs, so dense as sometimes to render navigation dangerous, occasionally form at Algiers and on the coast country generally; but this happens almost exclusively during the summer.”

According to the investigations of French physicians, Algiers would seem to enjoy an extraordinary immunity from consumption; they have come to the conclusion, that it is an extremely rare disease in that tract of Algeria which lies between the sea and the mountains: and amongst the indigenous population its occurrence is wholly exceptional. From reports furnished by them, out of 622 cases of disease, one is calculated to arise from consumption, and in every seventy-five deaths one only is due to this disease;—a striking difference between these statistics and the average number of deaths from consumption in London and Paris, being, in the latter, not less than one in five.

Dr. Francis concludes his excellent little work with an Appendix on the mineral waters of the Pyrenees. Amongst the most celebrated of these we notice the sulphurous waters of Vernet, which are recommended, and are particularly applicable to chronic affections of the chest accompanied by copious secretion, and to non-inflammatory vesical catarrh. Two large hotels have been fitted up by French officers for the treatment of invalids, with every attention to comfort. “The staircases, corridors, dining-rooms, and the passages leading from the sleeping-rooms to the baths, are all maintained constantly at the same equable temperature, from  $59^{\circ}$  to  $64^{\circ}$ .”

We now close our notice of this practical volume, and strongly recommend its perusal to all who are interested in the subject of climate. We have only to regret that its author had

not an opportunity of investigating the real merits of the climates of Egypt and the coasts of Syria, as we are convinced, from a personal observation acquired some years back, that they are well worthy the investigation of a careful and painstaking observer such as we have proof abundant in the volume before us Dr. Francis is.

The work of Dr. Burgess on the Climate of Italy requires but a very short notice from us. We have perused it without gleaning a single new fact of the slightest practical importance. That Devonshire and the Isle of Wight possess many claims upon British invalids for a winter retreat, no educated physician would for a moment dispute, but these claims have been fairly and sufficiently asserted in the several editions of the valuable monograph upon Climate of Sir James Clarke, as have also the true relative merits of the climates of Provence and of Italy. Not so, however, thinks Dr. Burgess; who, after a few months' *uncomfortable* travelling in the south of France and Italy, comes home, and writes a book full of prejudice, endeavouring to persuade invalids to stay at home; as, according to his views, all foreign climates are cheats, "experience" having taught him that both discomfort and disappointment are the rule of the day abroad.

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*Homœopathy: its Tenets and Tendencies, Theoretical, Theological, and Therapeutical.* By J. Y. SIMPSON, M. D., F.R.S.E., &c. Third Edition. Edinburgh: Sutherland and Knox. 1853. 8vo, pp. 292.

OUR readers must long ere this have perceived how rarely we have noticed, or even referred to, the popular quackeries of the day. In all ages and at all times since medicine was converted into a science by the Old Man of Cos, attempts have been made by the ignorant and the uninstructed to reduce its practice to the level of the mind of the masses of the people, or to substitute an universal panacea for the many and varied therapeutical resources which the accumulated skill and experience of centuries have placed at the disposal of the educated physician. We should not, then, be surprised, or take it too much to heart, that empiricism abounds now as ever, and that new systems of quackery, each, mayhap, more foolish than the preceding, are continuously being *invented*. It is true that the public requires from the legitimate practitioner an exposition



from time to time of these knaveries, and the folly or absurdity of the so-called doctrines on which they are said to be based; yet such exposure, we conceive, is out of place in the pages of a Journal devoted to the profession, where, if admitted, it must find room, to the exclusion, in this busy age of advancement, of the record of some medical fact, or of the notice of a novel idea, or of an improved view in some of the many departments of our art. Moreover, as the evil passions which sway mankind, and the follies and knaveries of life, often take deepest root the more they are attempted to be exposed,—thriving, as it were like ill weeds, on abuse,—so we have often remarked the most nonsensical systems of quackery—foremost amongst which we would place homœopathy—to take the firmer hold on the mind of the vulgar and acquire the greater prominence, the more they are made a subject of animadversion by the medical writer. The slight extent, comparatively speaking, to which quackery has spread in our metropolis and in Ireland generally, is, we have often thought, to be ascribed to the little notice *we* take of it; and, consequently, we do not purpose departing from the rule we have laid down for ourselves—treating empiricism, be it new-fangled or old-fashioned, with silent contempt, and allowing it to find its level without artificial aid from us. While, however, we deprecate the showing up of quackery in periodicals like ours, devoted solely to the literature of medicine, we do not at all object to the publication of *medico-popular* books or essays, written to expose these impostures; and when the arguments contained therein are, as in the volume now before us, ably conceived and clearly put forth, their use is manifestly great, provided *the public* can be induced to study them.

Professor Simpson's book, though called a third edition, must be regarded as a new work, considering the amplification which it has undergone, and the new arguments which have been introduced. For the reasons given above, we have no intention either of analyzing or reviewing it; we merely indicate it to our readers as containing the most *philosophic* exposure of homœopathy in the English, or indeed in any other language, and consequently, as best adapted for furnishing them with materials to combat the specious reasonings occasionally put forward by its professors or its dupes.

*A Treatise on Auscultation and Percussion.* By Dr. JOSEPH SKODA. Translated from the fourth edition, by W. O. MARKHAM, M.D., Assistant Physician to St. Mary's Hospital. London: Highley and Son. 1853. Post 8vo, pp. 346.

THE name of Professor Skoda, as an original discoverer in the rich mine of thoracic diagnosis, has been for some time familiar to us in these countries. His work, however, on auscultation and percussion has been hitherto unknown to the greater proportion of our medical readers, a few only of the younger or more zealous having the courage to attempt to master the abstruse and novel theories of the author in the obscurity of a foreign language. It is certainly not a little singular, and has been no doubt tantalizing, that a treatise of such value should have remained so long inaccessible to the English student, more than fourteen years having elapsed since the publication of the first edition at Vienna. From time to time we have heard of a translation being in progress, and even the names of translators have been mentioned, but, with the exception of a valuable analysis of Dr. Skoda's researches made by Drs. Drysdale and Russell with the oversight of the professor himself, published in the *Edinburgh Medical and Surgical Journal* for 1841, and the recent publication of Dr. Herbert Davies of London, we have had no authentic account of Skoda's researches. We are rejoiced to find that this strange anomaly exists no longer. A work of such original thought is worthy to receive the national franchise, and deserves a place in our Anglican literature, even though all the rectifications proposed by the author in the theories of auscultation and percussion may not be tenable. We can only account for the delay which has occurred in the translation of the labours of the illustrious German to the prejudice which exists against any attempt to impugn the authority of Laennec. The doctrines of the great discoverer of auscultation have had the sanction of time and early inculcation, and have been long admitted as truths which it would be medical heresy even to question. Skoda's appeal to us, like that of the noble Athenian of old, is, "Strike, but hear." All he requires of us is to give his objections to several of the received doctrines a due consideration, and, if they should be borne out by observation and experiment, no longer to cling to error because it may be sanctioned by authority.

The treatise on auscultation and percussion now presented in English by Dr. Markham is translated from the fourth German edition, and, therefore, comes before us with the advantage



of the long and tried experience of the author. It bears the impress of an inquirer who evidently desires to think for himself. He avows himself openly as an agitator for stethoscopic reform, and ambitiously enters the lists ready to meet all opponents. He generally brings pathological observation or direct experiment to bear against the theories which he attacks, but sometimes rejects them, without any more conclusive reason than his own opinion, "*Stat pro ratione voluntas.*" We feel at times disposed to be a little angry with him for the *brusquerie* with which he dismisses the conclusions of Laennec, Andral, Piorry, Stokes, Williams, and other masters of the art, and to be amused with the spirit of combativeness which he shows towards some of his countrymen who dispute his views. But a few examples of personal ovation occurring among a great deal that is truly valuable, we can readily admit as instances of the "eccentricities of genius," and of that laudable desire to discover truth, and to profess it when discovered, or imagined to be so, at all hazards, though, like the fate of all reformers of error, the knocks administered may produce disagreeable results.

The volume is divided into two parts. The first contains a description of the phenomena observable by the aid of auscultation and percussion, and the second, the application of these phenomena to special conditions of the thoracic and abdominal cavities. Neither of these divisions can be regarded as complete treatises upon their subjects; they are, as the translator has well observed, "more of a suggestive character" than a hand-book of details; and he states that he felt so impressed with this, "that he once had an idea of attempting to fill up what he believed was wanting, with the hope of rendering the book more complete for the hands of the student; but, upon reflection, thought it better that the work should retain its original form." We are of opinion that Dr. Markham has evinced much judgment in thus resisting that dangerous temptation, into which so many translators fall, of *improving* the original, and in giving us the work without note or comment. Skoda comes before the public not as the compiler of a manual "for the use of students," for which purpose, from the obscurity of his style, his book is but little adapted, but as a skilful gladiator attacking the existing theory of auscultation at every undefended point. The propositions he puts forward frequently come before us in a polemical shape, unfitted for beginners in auscultation: often, indeed, difficult to be understood even by the more advanced student. Besides, many of his positions are new and startling, and demand the experiments on which

they rest to be carefully repeated. They raise doubts which require to be sifted to separate the chaff from the corn, a work of experience and time. We shall endeavour, in placing some of the writer's views before our readers, to divest our minds of any preconceived prejudice in favour of the opinions they question, and to give a short notice of a few of the salient points to be found in his work.

The first part of his volume is subdivided into four chapters,—the first being appropriated to percussion; the remaining three to auscultation, both in a general view and in a particular application to the organs of respiration and circulation. In his principles of percussion he appears to us to deviate from the simplicity of plan which he proposes to himself in auscultation. In the latter, he seeks to get rid of a number of minute distinctions, which he thinks have injuriously incumbered the art, and tries to reduce the minute subdivisions of the French school to fewer heads. In his chapter on percussion he has, on the contrary, amplified the table of sounds, so that it may be objected to his theory that it is very artificial, and, even if well founded, scarcely applicable to practice. Thus he observes, that—

“The various percussion sounds of the thorax and abdomen cannot be arranged together in one class, comprising every degree of sound: it is necessary to distinguish four principal varieties; the extremes of these varieties, between which there are numerous gradations, may be represented by the following terms:—

1. Full—Empty.
2. Clear—Dull.
3. Tympanitic—Non-tympanitic.
4. High—Low.

A full percussion sound may be clear or dull, tympanitic or non-tympanitic, high or low; and the same is true as regards an empty sound.”

Before offering any comment upon the preceding division, we would remark, that the nomenclature of percussion is very defective, chiefly from the want of suitable expressions to describe sounds, in perhaps most languages. Thus the terms in use to distinguish the varieties of sound are borrowed,—some from the other senses: for instance, the epithets *clear* and *obscure*, from vision;—and some from magnitudes, whose characteristics of depth, breadth, and fulness, are transferred to properties of sound. Thus we use the expressions depth of tone, breadth of voice, fulness of sound, to denote various de-



degrees of volume and intensity in the phenomena of the sounding body. It is one of the inconsistencies of language that these expressions have become familiar from habit; while their opposites,—such as shallowness, narrowness, and emptiness,—would jar strangely on our ears if so applied. From this difficulty of finding suitable terms to express gradations of sound, writers on percussion have confined themselves hitherto to the single division of sounds into the clear and the dull,—distinguishing by adjuncts the several degrees, from the highest clearness, amounting to tympanitic resonance, to its total absence, as denoted by femoral percussion. The possibility of illustrating these degrees by certain sensible sounds, so as to have thereby a standard of comparison, was advocated by Piorry, who conceived that each organ had a peculiar intonation when struck, and which was capable of assimilation to the sounds elicited in abnormal conditions of other organs. Thus he established a set of standard sounds, such as stomach-sounds, liver-sounds, spleen-sounds, bone-sounds, and so on. Against this unphilosophical, as well as unpractical, division our author justly raises his voice; and shows that the parenchyma of all organs not containing air, except membrane in a state of tension, gives forth the same sound, and that the varieties of sound heard on percussion of the lungs, the stomach, and intestines, depend solely upon the air contained in them. But though, as we have observed, the terms ‘clear’ and ‘dull’ have, for want of better, been employed by stethoscopists, they were felt insufficient to convey a notion of the cause of the clearness or dulness, whether existing beneath the part percussed or in that part itself. For instance: a clear sound implied not only that air existed beneath the spot, in quantity varying generally according to the degree of clearness elicited, but that the walls of the chest were in a favourable state for becoming good conducting media; otherwise, the amount of air in the chests of two individuals being the same, the clearness of tone would differ according as the elasticity of the thoracic investments was affected by muscular tension, fat, œdema, or other causes. These two conditions, which have been recognised and commented on in most treatises on the subject, Professor Skoda now proposes to designate by distinct names,—applying the terms fulness and emptiness to the amount of air in the parts beneath, and clearness and dulness to the elastic or inelastic state of the medium, viz.: the thoracic walls. It is plain that if this division could always be adopted in practice, it would impart a greater precision to our diagnosis; but it is not free

from objection. According to him, fulness of sound, and not strength of sound, is a measure of the magnitude of bodies:—

“We do not judge of the size of a resonant body by the strength of the sound which strikes upon the ear,—the slightest vibration of a large bell tells us of its magnitude, the loudest ringing of a little bell misleads no one as to its smallness,—neither do we judge of the dimensions of a body by the pitch of their sounds.”

Hence, to produce a full sound, or a sound of considerable volume, there must be a proportionately large sounding body yielding it:—

“A full sound, produced by percussion of the thorax or abdomen, indicates the existence of air beneath through a space of at least several inches in extent in every direction. A thoroughly empty sound, resembling the percussion sound of the thigh, shows that there is neither air nor any other gaseous body beneath the percussed spot, but that solid, fleshy bodies or fluids are present there.”

It may be objected to the author's application of the terms fulness and emptiness to sounds, that popular usage has affixed to them a reverse signification, as indicative of the contents of the sounding body. Thus an empty sound, or the sound of emptiness, is always popularly connected with the presence, and not the absence, of air; while the sound of fulness, or a full sound, implies that the body struck contains solid or liquid matters. It is true, that an author is allowed to use words in certain cases out of their ordinary meaning, but the confusion thereby introduced makes such a proceeding inadvisable.

It is evident, and indeed is admitted by the author, that various causes render the application of the term fulness of sound, and its opposite, inaccurate measures of the size of the lungs, the condition of the walls of the chest so greatly modifying the amount of fulness:—“It is only when the most marked differences exist between the full and the empty sound that certain conclusions can be drawn.”

In his second class of sounds, the clear and the dull, the author observes that these words are taken by him in their usual significance. They are used by him as solely applicable to the state of the parietes. You can imitate the sound of a flabby chest by covering a drum with cloth—the sound becomes muffled; in the same way we find the percussion sound of the walls of the thorax clear in proportion as they are thin and elastic. The difficulty which most physicians experience in deciding how far the defect of resonance is due to the lung,



and how much to the unyielding walls, is endeavoured to be remedied by the author. He is of opinion, that by combining his first and second classes of varieties of sounds,—such as full and clear, full and dull, empty and clear, empty and dull,—we can supply every indication.

Some of these combinations he gives:—

“ When air is present beneath a thin and elastic portion of the thoracic walls, through a space about an inch in breadth, and not more than a few lines deep, and the remainder of the thoracic cavity is filled with fluid or consolidated lung-parenchyma, the percussion sound over that portion will be perfectly clear, but empty.”

Our readers may probably be of opinion that this is a refinement in percussion which it is difficult to conceive would be likely to occur, and of little value if it did. The clearness Skoda evidently considers due to the walls, and not to the air in the small portion of the subjacent lung, though some contradiction appears to exist between this case and his definition of an empty sound, as “ that in which *no* air exists beneath the percussed spot.”

Again, a full and dull sound may, according to him, be thus produced:—

“ A portion of lung, situated immediately beneath the thoracic wall, which has a surface not less in circumference than a pleximeter, and half an inch of thickness, will yield a full but quickly muffled percussion sound if it be deprived of air, whilst the rest of the thorax is filled with the normally distended lung.”

Why the dulness should proceed from the thoracic wall in this case, and not from the airless portion of lung beneath it, may naturally be asked.

The remaining combinations of full and clear, and empty and dull, present no difficulty: the former denotes a large amount of air in a well-formed and elastic thorax; the latter is represented by the thigh-percussion sound,—a completely dull and a completely empty sound having naturally the same signification.

Skoda's third class of sounds comprises the tympanitic and the non-tympanitic. Hitherto we have been accustomed to regard tympanitic sounds as exaggerated states of clearness, rather than as constituting a division in themselves. Our author thinks them distinct enough to form a class. The converse of them, however, under the appellation of non-tympanitic, being simply a negation of tympanitic, must necessarily be very vague, and capable of being applied to any sound that

has no tympanitic resonance. To fix it more definitely, however, he tells us it is the sound of the normal lung:—

“The non-tympanitic is represented by the sound which percussion produces at those parts of the thorax beneath which lies healthy lung normally distended by air.”

We cannot, therefore, call it a *variety* of sound, such as he assumes in his classification: it is his means of defining, in a lung in which a tympanitic sound occurs, the boundaries of the latter. Thus, in a partial emphysema, the tympanitic resonance becomes more evident from the contrast than when the whole organ is emphysematous.

Dr. Skoda has given the weight of his sanction to the curious fact frequently noticed, that a lung may yield a tympanitic sound even if it contains less than its normal quantity of air; and that “when the lung is much reduced in volume by compression, but still contains air, its sound is invariably tympanitic.” To give this proposition greater importance he puts it in italics:—

*“That the lungs partially deprived of air should yield a tympanitic, and, when the quantity of air in them is increased, a non-tympanitic sound, appears opposed to the laws of physics. The fact, however, is certain, and is corroborated both by experiments on the dead body, and also by this constant phenomenon, viz., that when the lower portion of a lung is entirely compressed by any pleuritic effusion, and its upper portion reduced in volume, the percussion sound at the upper part of the thorax is distinctly tympanitic.”*

That a similar tympanitic tone may be produced from a large effusion distending the pericardium, and compressing the left lung against the thoracic walls, was first noticed by the late Dr. Graves<sup>a</sup>, who explained it as thus fulfilling two conditions, viz., tension of the thoracic walls, and close application of the lung to them. According to our author, however, great tension of the parietes of an organ produces an opposite result; thus a stomach gently inflated, and yielding a tympanitic sound, will lose its resonance by strong inflation. The same, according to him, occurs in pneumothorax when the walls of the thorax are much distended: hence he announces, as a general proposition, that—

“The percussion sound is invariably tympanitic when the parietes of the organ which contains the air are not stretched, but that, on the contrary, when they are firmly stretched, the percussion sound becomes less, or not at all tympanitic, and even dull.”

<sup>a</sup> Clinical Lectures, by Neligan, vol. ii. p. 179.



Pressure against the thorax he considers insufficient to produce it:

“A healthy lung, strongly inflated within the thorax so as to be made to press against its walls, gives a full, clear, but non-tympanitic sound at every part where it comes in contact with the walls.”

Apposition, however, without pressure, he admits:

“If water be thrown into the pleura, the percussion sound is clear, and either approaches the tympanitic, or is distinctly tympanitic at every point at which the lung touches the walls of the thorax.”

The explanation offered by Dr. Williams of a tympanitic tone, elicited from a compressed lung, is objected to by Skoda as being disproved by direct experiments. Dr. Williams conceives that the reason the larger branches of the bronchial tubes do not emit on percussion a sound like the trachea is, that they lie deep, and are covered by porous lung which stifles the sound. When this portion of lung is condensed by compression or hepatization, it becomes, like the tracheal wall, a ready conductor of the sound of the closely applied bronchial tube. It is not so frequently met with as may be expected, because the consolidation is seldom sufficiently complete.

Having discarded all other interpretations, he gives us his own, which is as follows. To produce a tympanitic sound which resembles a tone, and the non-tympanitic rather a murmur, a greater homogeneity of vibrations is necessary; hence, if the parietes of the air-containing organ be not stretched, their vibrations do not interfere with the vibrations of the contained air, so that it is the air alone within the organ which produces the sound; but if, on the contrary, the parietes be distended, the vibrations arising from two bodies not homogeneous, viz., the strained investment and the air inclosed, interfere with each other, and the waves of sound, having different degrees of velocity, cross and to a certain degree neutralize each other. A somewhat different explanation has been proposed by Savart, viz., that the distended medium cannot *receive* vibrations from the subjacent air, on the principle that vibrations can be excited in a membrane only in an inverse ratio to its degree of tension. Thus a stomach when slack sounds tympanitic, because no sonorous vibrations can be excited in its walls.

Our readers must now perceive that Professor Skoda has devoted considerable attention to this subject. The reasons he assigns, supported also by experiments, appear to possess considerable probability. Still it is difficult to believe that in pneu-

mothorax and emphysema, in which the thoracic walls are protruded by pressure from within, and then placed in a high degree of tension, tympanitic resonance does not occur according to Skoda's hypothesis except on a remission of tension. The subject seems to require a further investigation.

We need not dwell on his fourth division of percussion sounds, viz., the high and low. They are unnecessary in practice, and, therefore, uselessly incumber a subject, the practical advantage of which consists in its simplicity and readiness of application. His explanation of the other percussion sounds need not detain us. We shall only observe, that Piorry's "water-sound," *son humorique*, the metallic ringing sound, does not, as Piorry supposed, according to our author, necessarily require the presence of water to produce it.

It is time for us now to proceed to give a brief summary of our author's views on auscultation, and especially on his theory of *consonance*, upon which most of his observations are based. It is due to him, as his fame as a deep thinker is so closely connected with this subject, to present our readers with as clear an outline of it as we are able.

The theory of bronchophony, propounded in works on auscultation, has been, with little modification, that of Laennec. This writer has endeavoured to explain why the voice is scarcely at all perceptible in the bronchi distributed through the lungs, when these organs are healthy. He assigns three causes for this: first, "that the loose texture of the lungs, rendered still more rare by its intermixture with air, is a bad conductor of sound;" secondly, "that the softness of the bronchial branches after they cease to be cartilaginous renders them very unfit for its production;" and thirdly, "that the smallness of their caliber must render whatever sound is produced in them more acute and weaker than in the larger trunks." "But," continues Laennec, "if any one of these adverse conditions is removed, and yet more, if several of them are so at the same time, the sound of the voice may become perceptible in the smaller bronchial tubes." When so occurring, he designated this state "accidental bronchophony," as arising from causes of casual occurrence.

In opposition to this exposition of Laennec, Skoda holds, that variations in the strength and clearness of the thoracic voice cannot be explained by differences in the sound-conducting power of normal and abnormal lung-parenchyma.

To show that Laennec's theory is insufficient, he lays down a postulate dependent on a circumstance which every one, he says, who has had much experience in pneumonia must have



observed,—viz., that in hepatization of the lung, bronchophony disappears and re-appears several times in the course of a few minutes, “without any alteration discoverable by percussion or other means having taken place in the condition of the hepatized part.” When we try to discover the cause of these successions of exaggeration and diminution in the loudness of the voice, we find that bronchophony disappears while the patient remains tranquil, neither coughing nor expectorating, but returns after a deep-drawn breath, and still more readily when the patient coughs.

“The conclusion,” argues the author, “to be drawn from this is, that the voice is heard through the hepatized parts when the bronchial tubes are not obliterated by fluids, but contain air, and that, on the other hand, it disappears when the tubes are blocked up by mucus or other fluids.”

Now, as Skoda naturally asks, if the voice sound was conducted by the walls of the bronchus, why should the obstruction of the tubes prevent its being audible; the same conditions exist at one time as at another, and it would be a matter of indifference whether the bronchial tubes contained air or liquid matter; we must, therefore, look for some cause more rational and persistent than the sound-conducting power of the lung. This cause he finds in the air contained in the bronchial tubes, through the medium of which he considers the voice to pass into the parenchyma of the lungs. So far from the solidification of the lung assisting the conveyance of sound, he tries to prove that in proportion to the solidity of a body is the difficulty of the passage of sound from the air into it, in consequence of the loss sustained from the great reflection which sound undergoes when it passes through media so vastly different in density as air and solidified lung. Dense bodies, such as a beam of timber, or water, readily transmit sound when the ear is placed in *contact* with them, but when a rarer medium, such as air, is interposed, the sound spreads in every direction, and much of it is lost. He even goes farther, and asserts that the voice passes more readily from the air of the air-cells and tubes into the parenchyma of a healthy lung than it does from the air of the large bronchial tubes into the consolidated tissue of a hepatized lung. For this cause he rejects the notion of Laennec, that bronchophony is explicable on the ground of the superior conducting power of a consolidated lung, such a state rather impeding than augmenting the sonority, according to his views.

In seeking for some better explanation our author was

struck with the fact that bronchophony is often heard as distinctly at a point *remote* from the part where it originated as at that part itself, nay more, it is sometimes heard louder at a distance from its origin than at it. The first condition may be explained by causes preventing its diffusion, so as to keep it concentrated, but this will not account for its *increased* loudness; as no conduction of sound can increase its loudness, it must have gained its augmented strength by consonance alone:

“Consonance is a well-known phenomenon. A guitar string yields a musical note when a similar note is sounded upon another instrument in its neighbourhood, or even by the human voice. A tuning-fork held in the air sounds much more feebly than when laid on a table; the table strengthens the tone and yields similar vibrations, and thus consonates with the tuning-fork.”

“The sound of a Jew’s-harp is scarcely heard in the open air, but becomes distinctly audible when made to vibrate within the mouth—its sound is strengthened in consequence of the air in the mouth consonating with its vibrations.”

The theory of consonance requires a more extended description than our author thus gives of it, and we shall add a few remarks which may illustrate his views. That cavities reinforce the sound produced in them by reverberation from their walls is well known. It has also been observed that when a person speaks or sings near the opening of a wide-mouthed vessel, some note of the voice is greatly augmented by reason of its being in unison with the air in the cavity. The conditions to be fulfilled are, that the vibrating body be placed opposite to the orifice of the vessel, and be large enough to set a considerable amount of the adjacent air in motion. When this occurs, the sound of the vibrating body being in unison with the natural note of the cavity, consonates with it and receives an increase of strength. In this case the sound is alternately reflected by the bottom of the cavity and the undulating body at its mouth, so that the first impulse, after undergoing a double reflection from both of these, combines with the second new impulse, and reinforces it. The same process is repeated at each new impulse,—each conspires with its echoes to augment the sound considerably. This resonance or consonance has been illustrated by Professor Wheatstone in a very interesting manner: “If one of the branches,” he states, “of a vibrating tuning-fork be brought near the embouchure of a flute, the lateral apertures of which are stopped so as to render it capable of producing the same sound as the fork, the feeble and scarcely audible sound of the fork will be augmented by the rich reso-



nance of the column of air within the flute, and the tone will be full and clear. The sound will be found greatly to decrease by closing or opening another aperture, for the alteration in the length of the column of air renders it no longer fit to reciprocate the sound of the flute."

Having laid down the principle of consonance, our author thus proceeds to apply it to explain the thoracic voice. When a person speaks, the voice is produced by certain vibrations of the vocal chords in the larynx, which are communicated to the air in the throat, the mouth, and the nasal cavities, which consonate with the laryngeal sounds. That this is the case "we learn from the changes which the voice undergoes by opening and closing the mouth or the nose, while the condition of the larynx remains unaltered." Every one has observed the disagreeable nasal intonation which the voice acquires when the nostrils are stopped, and which is popularly but erroneously termed "speaking through the nose." Now, argues the author, as in the upper passages, the air in them consonates with the sound formed in the larynx, so in the lower passages, viz., the trachea and bronchial tubes, it is the air in them and not the parenchyma of the lungs which is the consonating body, the parenchyma being ill adapted for consonance, as being neither firm nor tense in structure. But air does not consonate except when confined; e. g., a musical instrument does not sound as loudly in the open air, where it is diffused, as in a close room, and the force of the consonance depends upon the form and size of the enclosed space, and upon the nature of the walls forming it. A space bounded by solid walls yields the loudest consonance from the complete reflection of the sound. It is popularly known that tents, or rooms hung with tapestry or curtains, damp the sound, while the voice reverberates powerfully from the metallic walls of the speaking-trumpet. It must not be supposed, however, that the air confined in a given space consonates with every sound in an equal degree; it will be found that all the sounds produced in it do not consonate with equal force and clearness. "Consonating bodies only respond to those tones which they themselves are able to produce, or to vibrations forming some aliquot part of such tones."

The author next proceeds to show the effect which the structures of the trachea, the bronchi, and the parenchyma of the lung exercise on consonance, and he concludes that the cartilaginous formation of the trachea and bronchi places them in a condition for reflecting sound analogous to the upper passages, so that the sound is nearly as loud in the trachea as the larynx. But it is different when the bronchial subdivisions lose

their cartilaginous structure, and become thin membranous canals. These damp the sound, like the yielding walls of a tent, instead of reflecting it, thus weakening the vocal consonance. But should these yielding membranous walls acquire an artificial solidity, either from a denser condition of their own structure or a resisting background formed by consolidated lung, they present the necessary condition for reflecting the vocal vibrations, when the communication with the air in the larynx is uninterrupted. These vibrations are perceived by the ear applied to the thoracic parietes, or by the stethoscope, by means of the walls which surround the air vibrating in unison with the consonance of the voice within them, and these vibrations may be so strong as to pass through several inches of thick fleshy parts, or of fluid.

Such is Skoda's theory of consonance; and he next proceeds to consider those diseased conditions of the respiratory organs which produce an increase in strength or clearness of the thoracic voice. Of these he recognises three classes, viz., 1. Diseases depriving the lung-parenchyma of air, and rendering it firm, dense, and solid; 2. Diseases depriving the parenchyma of air by external compression; and—3. Hypertrophy of the cartilages of the bronchial tubes within the lungs. In the first class he enumerates pneumonia, tubercular infiltration, and pulmonary apoplexy; and states that in these, two conditions must be fulfilled to produce increased loudness of the voice, viz., total, or nearly total, expulsion of air from the air-cells; and a large tube within the solidified part whose walls are capable of resisting compression, and containing air which freely communicates with the larynx. He denies that solitary tubercles, if the intervening parenchyma remains pervious to air, produce it, or lobular pneumonia, except to a slight amount. He totally rejects the opinion of Williams and Raciborsky that it can exist in a high degree of pulmonary congestion.

Among diseases which produce the thoracic voice, by compressing the lung tissue, he enumerates pneumothorax, pleuritic and pericardial effusions, tumours, aortic aneurisms, enlargements of the heart and abdominal viscera, and deformities of the thorax. The chief of these are pleuritic effusions and pneumothorax, as affording a compression more complete, and of a larger amount of lung. In other cases of compression from without, the air is seldom completely excluded from the compressed portion of the lung,—thus rendering the thoracic voice less certain. As to the amount of fluid or gas requisite to produce such a degree of compression as to give rise to the thoracic voice, it is difficult to decide, as it depends on the state



of the lung and the capacity of the thorax,—a few ounces in one case, and at another several pints being necessary.

He assigns as a reason why compression of the lower lobes of the lung more frequently gives rise to the thoracic voice than the upper, that the bronchial tubes of the compressed portion of the lower lobe are reduced in size, but not obliterated,—whereas they are more readily obliterated in the upper parts because of the curved course they follow. He does not determine the distance of a bronchial tube from the surface of the thorax necessary to produce consonance, but he thinks it may be considerable: an increase of voice is seldom audible in circumscribed effusion.

Of diseased states fulfilling his third condition, viz., enlargement of the bronchi and cavities in the lungs, they do not cause an increase of voice unless their walls reflect sound, and are infiltrated, thickened, and deprived of air, through a depth of several lines. For the experiments in support of the above views we must refer our readers to the volume itself.

We shall say but a few words on the application of these principles of the author to the varieties of the thoracic voice, as our limits warn us to conclude.

It is well known that Laennec considered the resonance from a cavity to be different from the resonance in a bronchial tube, surrounded by consolidated lung, and that he gave the name of pectoriloquy to the former sign, regarding its presence as pathognomonic of pulmonary caverns. Laennec relied a good deal on the value of pectoriloquy, but he could not, however prejudiced in its favour, remain insensible to its very variable character; and as he could not find it to exist in a perfect form in all case of cavities, he endeavoured to give it a certain value by admitting degrees of it, and correcting its indications, when doubtful, by collateral circumstances aiding the diagnosis, such as the circumscribed nature of the sound itself, and the concurrent indications of cavities afforded by the cough, the rales, and the respiration. But the very degrees of it made by Laennec into perfect, imperfect, and doubtful, without any pathological condition peculiar to each, only increased the uncertainty of the sign, showing that it was liable to fallacy. Subsequent writers admit that, taken alone, it is one of the least certain in phthisis, sounds in every way resembling it having been found to exist even in normal conditions of the lung. Laennec himself could find no satisfactory difference between doubtful pectoriloquy and bronchophony. If, therefore, cavities can exist without pectoriloquy, and pectoriloquy without cavities, Skoda thinks it should be discarded as a dis-

ting condition, no real difference existing between it and bronchophony. His modifications, therefore, of the thoracic voice are the following:—

“1. The voice, accompanied by a concussion in the ear, completely traverses the stethoscope. Loud bronchophony, which may be either clear or dull.

“2. The voice, unaccompanied by concussion in the ear, passes incompletely through the stethoscope. Weak bronchophony.

“3. An indistinct humming with or without a barely appreciable concussion in the ear.

“4. Amphoric resonance and the metallic echo of the voice.”

It would thus appear that his loud and weak bronchophony resemble Laennec's perfect and imperfect pectoriloquy in the character of complete or partial conduction of the voice through the stethoscope, but differ from them and each other in the shock communicated to the ear, which is not found in the second modification. Distinctness of articulation does not constitute a difference between these two forms, as it exists in weak bronchophony. He uses this sign as the point of distinction of his loud bronchophony into clear and dull; in the latter the voice produces a concussion in the ear, but the words are not distinguishable.

The following are the pathological conditions associated with these modifications of the voice:—The loud bronchophony always indicates the presence of a considerable amount of consolidated lung substance beneath the spot, either in contact with the walls, or separated from it by solid or fluid pleuritic exudations of no great thickness. Such a state may exist in many abnormal conditions of the lung, hepatization and tubercular infiltration being the most obvious; pulmonary apoplexy is rarely sufficient; fluids in the pleura do not produce it of themselves, except in the upper half of the interscapular region; but a moderate effusion, combined with a compressed or consolidated lung, deprived of air, and with open bronchial tubes, may afford it. He denies altogether that we can diagnose the existence of a cavity by any direct inference from this sign, and says that all our evidence must be circumstantial, our opinion being guided by the fact, that as abscesses are rare in pneumonia, the probabilities are in favour of its production in that disease by enlarged bronchial tubes, and the reverse in tubercle of the lung.

“As we know that abscesses are very rare in pneumonia, and vomicae rarely absent in tubercular infiltrations, we shall not often err if, in tubercular diseases, we prognosticate the presence of cavities



where the voice is heard loudest, and never infer the existence of an abscess in pneumonia from the thoracic voice, however loud it may be heard.

The term, weak bronchophony, as above defined, indicates the presence of extensive pleuritic effusion in addition to the diseased conditions referred to under loud bronchophony. The great difficulty of deciding between these two states is admitted by the author, and he enters into considerations assisting the diagnosis: if the extent of dulness on percussion be small, say, over half of one lobe of a lung, the completeness or incompleteness of the dulness is our guide; but if the extent be more considerable, he depends more on the displacement of neighbouring organs, which never occurs in hepatization or tubercular infiltration. Changes of the position of the patient give no sign to be depended on." We must be cautious in our interpretation of bronchophony when heard in the interscapular regions, as being often normal; but if it be as loud and clear there as it is over the larynx, it indicates disease. The *whispering* voice always indicates a diseased state of the lungs, though not the existence of a cavity. He regards it as an articulated expiratory murmur.

It will be seen from Skoda's division of vocal sounds, that he does not include Laennec's ægophony. This has been the most contested of all Laennec's signs, as he considered it always to indicate the presence of a thin layer of fluid between the lung and the thoracic walls. It was soon, however, observed, that this was not always necessary. Dr. Stokes considers that it, or something very like it, may occur in pneumonia "when the lung has passed into its fourth stage, or when it is resolving from the third." It has been heard in some cases of tubercular infiltrations where no fluid was found in the pleura; and, on the other hand, it has been absent in slight cases of effusion fulfilling Laennec's conditions, and present in larger collections. Skoda gives at length his reasons for dissenting from Laennec's explanation. Reynaud's opinion, which has been favourably received in France, viz., that ægophony is but a remote bronchophony, heard through a layer of fluid, more or less thick, and varying from bronchophony to ægophony, and *vice versâ*, according to the depth of the layer, arising from changes in the position of the patient,—is, according to his experiments, untenable. The cause of the *tremulous* character of the voice, which Laennec explained by flattening of the bronchial tubes, and Raciborski by the tension of the pleura pressing inwards on the air-cells, is differently explained by him. He does not

think vibrations of the air are sufficient to produce it, and that it requires "the impact of one solid body upon another, or upon a fluid or æriform body;" as an example of which he mentions the tremulous sound produced by speaking upon paper placed over the teeth of a comb. This impact arises, according to him, from the re-action of the bronchial walls upon the contained air, or a portion of mucus may cause it, occupying the orifice of a bronchial tube, vibrating like the thin tongue in the mouthpiece of tongued instruments.

How far the above-described modifications of Laennec's division of the thoracic voice are well founded will most probably be viewed with different opinions. The value of special denominations—such as pectoriloquy and ægophony—must depend a good deal on the degree of certitude with which they can be applied; and if the exceptional cases to the pathological states supposed to be represented by them exceed the latter, they lose their precision in diagnosis. It was, no doubt, an error of Laennec to view certain signs as pathognomonic, and which have not been borne out by subsequent experience, an error which must do harm to such as receive his doctrine without examination; but, on the other hand, it is very inconvenient to change, without very strong justification, an established nomenclature, especially coming from one to whom we owe so much as Laennec. No one doubts that abnormal conditions, such as those to which he gives the names of pectoriloquy and ægophony, exist: it is certainly an inconvenience in practice to find that they can be simulated by other states than those of pulmonary caverns and pleuritic effusions, but it is hard to replace them by other designations, to which at least equally strong objections may not be raised. There is no one now, of any experience in auscultation, who would depend on either pectoriloquy or ægophony by themselves, without taking into consideration both local and general signs as correcting their indications. It is admitted by Skoda, that his own modifications cannot be depended on without similar aids; whether, then, we gain by the exchange may admit of question.

We have dwelt thus fully upon the author's theory of the thoracic voice, because it is the key which admits us to his views of the normal and abnormal conditions of the respiratory organs. As we have already exceeded the space at our command, we can only glance rapidly at the remainder of the contents of his volume, though well worthy of a more lengthened consideration. He makes four varieties of respiratory sounds:



1. Vesicular respiration. 2. Bronchial breathing. 3. Amphoric echo and metallic tinkling. 4. Indeterminate respiratory murmurs. His explanation of bronchial breathing is similar to that of bronchophony, that it depends on the air in the bronchi vibrating in consonance with the respiratory sounds in the larynx and trachea in a condensed state of the lung. He rejects Laennec's cavernous respiration on the same principle upon which he discards pectoriloquy, that caverns afford no peculiarity of murmur enabling us to decide on the entrance of air into a larger space. His new class of indeterminate murmurs is very vague, and is described by negatives, having no character referrible to any of the preceding classes; they seem to be of that kind which are not difficult to be conceived, but hard to be described. As he founds no particular conclusion upon their indications, it is sufficient here to allude to them.

After some valuable observations upon the causes of the rales heard during respiration, and their varieties as to size, strength, distinctness, and pitch, to which we refer our readers for details which will amply repay them, the author gives the division of the rales proposed by Laennec, Fournet, and himself. His own is as follows:—1. Vesicular; 2. Consonating; 3. Dry crepitating rale with *craquement*; 4. Indeterminate; and—5. Rales accompanied by amphoric resonance and metallic tinkling. Of these, the vesicular originates in the air-cells and minute air-tubes, and its bubbles are small and of equal size. It solely indicates the presence of fluid in the cells, and that they are still pervious to air, though without giving us an indication of the nature of the fluid. This sound answers to Laennec's moist crepitus, which he considered a pathognomic sign of incipient pneumonia, and endeavoured, by subdividing it into crepitating and sub-crepitating, to distinguish between this rale, as occurring in other affections as well as in that disease.

The consonating rale has the same significance as his bronchial breathing and bronchophony. His indeterminate rales, as well as the murmurs of the same kind, indicate no special condition of the respiratory organs, and are so far of no value to us in practice. Under this head, he classes such mucous rales as are neither vesicular nor consonant. They afford no information as to the state of the parenchyma of the lungs and indicate merely the existence of fluids in the bronchi. He rejects Laennec's cavernous rale, as he does his cavernous respiration.

The dry sounds heard during respiration are separated by

Skoda from the rales, and designated snoring, whistling, and hissing sounds. Their explanation is much the same as is generally received.

We regret very much that it is impossible for us to enter into Skoda's account of the auscultating phenomena presented by the organs of circulation, and which shows the minute attention paid by the author to this subject. In the same way we can only briefly refer to the second part of the volume, including the practical application of his theories. This he divides into the normal and abnormal conditions of the thoracic and abdominal organs, as discernible by auscultation and percussion. The abnormal conditions he divides into unnatural positions of these organs, irregular conformation of the walls of the thorax, and diseased states of the organs themselves. Under the latter head he passes in review the several diseases of the bronchial tubes, the parenchyma of the lungs, the pleura, the pericardium, endocardium, and substance of the heart, the large arteries, and the abdominal organs. In this part there is a fund of practical information, the result of the author's laborious and careful investigations, pursued so long and so successfully in the ample field which the noble hospitals of Vienna have afforded him.

It would be an act of great injustice to the translator not to express our highest approbation of the skill with which he has performed his not very easy task. In recommending the present volume to the careful perusal of our readers, we shall only say, that it is not to be hastily taken up and laid down, but when read, it should always undergo a slow ruminating process so as to insure its perfect digestion. If thus treated it cannot but exercise a valuable influence on the mind of the reader, leading him to reflect upon and weigh the grounds of his medical belief. Many of the author's opinions require to be tested, but it must be by the same patience and ability that he has himself brought to the subject. We feel assured that his work deserves the high position it has won for itself abroad, and which it requires only to be known to obtain in this country.

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*Six Lectures on Materia Medica and its Relations to the Animal Economy.* Delivered before the College of Physicians in 1852. By JOHN SPURGIN, M. D., Fellow of the College. London: Churchill. 1853. 8vo, pp. 204.

A SUPERFICIAL or hasty perusal of the work before us might induce the reader to differ widely from the author as to the



correctness or appropriateness of the title which he has given to these Lectures, constituting, as they appear to do, a treatise on the physiology of animal life, and on the importance of considering *the blood* as the true vital principle of all animal organization, as, indeed, the motto on the title-page plainly indicates. Having been deprived, however, of any choice in this matter by the arrangement of the College of Physicians of London in the institution of this particular annual course, the author states that he considers *Materia Medica*, when regarded in a truly philosophical point of view, to have reference to the whole extent of animal being, and to the various laws and principles by which its economy is regulated and preserved. "I shall not, therefore," he says, "regard it merely as a collection of materials to be employed, either arbitrarily or empirically, in the treatment of disease; but I shall endeavour rather to contemplate it in its widest relations and most extensive significance,—as comprehending, in fact, every particular that relates to the preservation and well-being of our physical existence."

The first question proposed for solution at the outset of the inquiry is—To what common principle do the constituent parts of all animal organization refer their origin; to what, in fact, do they stand subordinate and subservient as to a common principle and source? The next step of the inquiry arises naturally out of this—What are the particulars involved in this general principle? what are the elements which enter into the composition of the blood?

This, then, being his starting point, he proceeds at once and at considerable length to a minute examination of the physiological relations of the fibrine, albumen, and red particles; and through nearly a whole lecture has he extended his observations on these proximate principles of the blood, as well as on some remarkable facts which have been ascertained regarding the effect of medicinal or chemical agents in modifying this important element of the animal economy.

An analytic review of the various microscopic researches which have been made upon the structure of the red globules, occupies a considerable portion of the second lecture, in which Dr. Spurgin considers at some length the causes of the singular discrepancy to be found in microscopic observations, and the importance to be attached to them in endeavouring to arrive at definite conclusions with regard to the powers and properties of the blood globules. The fluidity of the blood is next considered, a property which can be recognised therein before the development of any solid constituent whatever of

the organism. He argues strongly in favour of the truth of the position, originally maintained by Bøerhaave, that there is a veritable fluid circulating in the nerves—the vesicles of the cerebral cortex acting as so many minute or microscopic hearts, which receive and re-expel the nervous current; and in support of his views on this part of the subject, and of their application to the principles of pathology and therapeutics, he adduces some very ingenious arguments.

His incidental remarks upon homœopathic practice are sound and judicious, and yet by no means illiberal. In the treatment of disease we are too apt to lose sight of the fact, that in many diseases there is a decided tendency to spontaneous recovery; in fact, it is in the nature of the animal economy itself to repair and to heal what is amiss. It is for art, experience, and judgment, combined, to assist nature, and so to expedite the cure. Art is but nature's auxiliary, and, if rightly exercised, removes the obstructions that oppose and frustrate nature. That which nature requires in homœopathic practice is *time*, protracted to weeks, months, and, it may be, years—as long, in fact, as the patient's credulity (and his pocket) can be further drawn upon.

Having spoken at considerable length of the blood and its several properties, more especially of its chemical relations, its colour, warmth, and fluidity, as well as its vitality, Dr. Spurgin proceeds to elucidate this latter property more fully by examining “the first visible product of the red blood”—the heart. And here we find him again endeavouring to revive and arrange the unsettled views of the older anatomists. He maintains that the heart-walls are indebted for their vascular supply, not, as usually taught and believed, to the coronary arteries *directly*, but rather in a secondary way, these vessels acting merely in the capacity of reservoirs of variable supply, in fact, safety tubes to hold in readiness a certain quantity of blood which they can return to the heart in greater or less amount as may be required; while he conceives the ducts of Thebesius to be the true channels of arterial or nutrient supply to the heart-walls:

“The communication between these ducts and the superficial vessels of the heart is, in fact, unquestionable, whether it be between the coronary arteries and the heart-cavities on the one hand, or between these cavities and the coronary veins on the other. With this ready and permanent communication, then, there can be no difficulty in conceiving how well suited the so-called coronary arteries are to perform a mixed, simultaneous function of artery and vein, and to stand in the relation of veins to the ductus Thebesii, which, as arteries, rise from the ventricles by many mouths rather than by one.”



Amongst many illustrations and arguments in favour of his hypothesis, he makes an ingenious application of the facts of a remarkable case related by Mr. Adams, in the Dublin Hospital Reports<sup>a</sup>, in which the coronary arteries were completely ossified, even to the extent of obliterating the continuity of their canals.

To such of his own views on some important points as will be found to differ materially from those generally received, he does not wish to attribute any value on the mere ground of novelty, and as they have been offered to the profession, "as the mature convictions of many years' professional practice, based upon extensive observation and careful research," we do not hesitate to recommend the work to the careful perusal of the candid philosophical inquirer, written as it is in a liberal spirit, and in a very elegant style.

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*On Diseases of Women and Ovarian Inflammation, in relation to Morbid Menstruation, Sterility, Pelvic Tumours, and Affections of the Womb.* By EDWARD JOHN TILT, M.D., &c. Second Edition. London: Churchill. 1853. 8vo, pp. 276.

THE present edition of Dr. Tilt's book is so much more voluminous than the former, containing not less than double the amount of matter, that it may almost be regarded as quite a new work. We find, too, that he has made a slight change in its name. The first edition was "*On the Diseases of Menstruation and Ovarian Inflammation, in connexion with Sterility, Pelvic Tumours, and Affections of the Womb*," whilst this edition professes to be "*On Diseases of Women and Ovarian Inflammation, in relation to Morbid Menstruation, Sterility, Pelvic Tumours, and Affections of the Womb*." Without wishing to be hypercritical or fastidious, we must in candour express our dissatisfaction with both these titles, and especially the latter; for view it in what light we may, whether with respect to what is strictly correct, or to propriety of language, it is alike open to objection.

The introduction (occupying about twenty pages), and about the latter half of the volume, represent the entire contents of the former issue, and still form the distinctive and most original features of the work. We do not perceive any important change here in the author's views or opinions, and hence we must beg to refer the reader to the volume of this

<sup>a</sup> Vol. iv. p. 443.

Journal<sup>a</sup> in which a faithful though brief exposition of them was given, together with some comments thereon. The general tenor of Dr. Tilt's remarks upon ovarian inflammation would lead to the belief in its being of much more frequent occurrence than accords with our own experience, or that of most other observers. Amongst the exciting causes of sub-acute ovaritis are enumerated, mechanical injuries at parturition; suppression of milk; cold; retention of the menstrual flow; uterine disease; uterine injections; caustic to the neck of the womb; instrumental interference; metrotome; stem pessaries. Many of these causes, we know, are in wide and constant operation; and yet how rare, comparatively speaking, is inflammation of the ovary. In the same way, multiplied examples of amenorrhœa, menorrhagia, chlorosis, hysteria, and dysmenorrhœa, come under the notice of every hospital physician; but in a very small proportion of them are unequivocal symptoms of ovarian inflammation found present. In speaking thus, we do not mean to disparage Dr. Tilt's labours,—far from it; but merely to counteract the impression which a cursory reader of this treatise might receive, that the above so-called functional derangements of the uterus are *often* mere symptoms of sub-acute ovaritis. This caution we feel convinced is the more necessary, as the author's views are so ably defended, and harmonize so beautifully with the recent physiological investigations, tending to show the paramount influence exerted by the ovaria in the sexual system of the female. The remaining portions of the book, as we have already said, form a large share of the whole, and contain a great deal of varied information relating to each and all of the symptoms which are met with as precursors, concomitants, and immediate sequelæ of the menstrual act. The author is here, perhaps, needlessly minute, and invests some really trivial and unimportant circumstances with too much importance; as, for instance, in trying to establish by statistical analysis the relative frequency before, during, and after the catamenial period, of sick headach, pseudo-narcotism, the different states of the bowels (whether relaxed, confined, or undisturbed), vaginal leucorrhœa, &c., &c. Twelve chapters are devoted to examining the theories, natural history, and attendant phenomena of menstruation. These last are classified agreeably to the modern physiological doctrines. Thus we have the "ganglionic symptoms of menstruation," the "cerebral symptoms" (to which group are referred pain in the head, sick headach, pseudo-narcotism, hysteria, epilepsy, and insanity), and

<sup>a</sup> Vol. x., August, 1850, page 131.



the "spinal symptoms." All through these chapters there seems to be a laboured attempt at physiological refinement and statistical accuracy, extending even to the most trivial details. This will make them, perhaps, a little tedious to the general reader: to compensate for this, however, they are abundantly illustrated with highly instructive clinical histories, and the therapeutical indications of the various pathological symptoms (if we may so speak) are carefully pointed out.

Dr. Tilt's views seem to lean towards the ovular theory of menstruation, and the weight of evidence, as adduced by him, is in favour of this doctrine. The strongest fact, perhaps, that has been brought against it is that supplied by the case of the notorious Mrs. Manning, the examination of whose body is recorded by Mr. Paget. In this instance, which is quoted by our author, there certainly was no appearance in either ovary of the recent rupture of a Graaffian vesicle. But, on the other hand, it may be urged, that we do not know at what precise period of the catamenial flow the ovum is discharged, and that in this particular instance it had only commenced twelve hours before her execution; and, further, that "in the left ovary one Graaffian vesicle was fully developed and prominent,"—ripe, in fact, for discharging its contents when the proper moment had arrived. We entirely agree with Dr. Tilt in the observation, that "the anatomical phenomena of ovulation should be present to the mind of the practitioner in cases of deranged menstruation, in cases of pelvic inflammation, and in cases of sanguineous tumours." With respect to the *source* of the menstrual discharge, the author is of opinion that it has three origins: 1st, in the ovary; 2nd, in the Fallopian tubes; and 3rd, "that portion of the internal surface of the womb which is lined with the decidua membrane." We believe Dr. Tilt to be correct in not including the vaginal mucous membrane amongst the sources of the menstrual secretion, although some physiologists have strongly maintained this view. Mr. Whitehead, indeed, tells us he "has frequently noticed the exudation of blood from warty excrescences and abrasions of the vaginal membrane during the menstrual period, but never from the healthy structure."

In speaking of the diagnosis of sub-acute ovaritis the author takes occasion to notice a paper by Dr. Churchill on *ovarian irritation*, which appeared in the Number of our Journal for August, 1851. He strongly objects to the term "ovarian irritation," "because," he says, "it has already been employed to express the physiological action of the ovaries, and imports another vague and indeterminate term in ovarian pathology, already sufficiently obscure." He considers the affection de-

scribed by Dr. Churchill to be only a form of lumbo-abdominal neuralgia, chiefly confined to the ovary. In reality, however, the difference, as appears to us, is only one of words. Dr. Churchill regards this affection as having its seat in the ovary, and being of a *non-inflammatory* nature; and in the absence of any positive evidence of its neuralgic character he calls it "irritation,"—a term of happy ambiguity, implying any condition except inflammation. Dr. Tilt holds precisely the same views, but, venturing on a more positive diagnosis, pronounces the disease to be neuralgia of the ovary, and tells us, moreover, that some two or three Continental authors have spoken of it.

A very interesting question both to the physiologist and practitioner is that of menstruation during pregnancy. Some authors of eminence, including Denman, Dr. Hamilton of Edinburgh, and Schmitt, strongly discountenance the possibility of its occurrence, while very many others, of equal celebrity, admit it. Mr. Whitehead of Manchester, who investigated this subject with much care, and even submitted fifteen pregnant women to examination by the speculum, at the time of this menstrual discharge, states, as a general rule, to which he had met no exception, "that the blood discharged in cases of alleged menstruation, during pregnancy, is furnished, not by the lining membrane of the uterus, nor by any healthy secreting surface, except sometimes, perhaps, the inferior part of the inner cervix, but by the lower extremity of the uterus external to its cavity, or by the contiguous vaginal reflection being in a state of suppurative inflammation." Now, in opposition to this very strong testimony, our author affirms, that he has found the menstrual flow occur with its usual pains during pregnancy oftener than is generally admitted, without, in many cases, any ground to attribute it to ulceration of the neck of the womb. The proportionate frequency of this occurrence he states to be "eight per cent." (of pregnant women, we suppose). It is a fact well known to practical accoucheurs, and one fully borne out by our own experience, that during the early half of pregnancy, at each periodical return of the menstrual epoch, there is a decidedly augmented determination of blood to the uterus and vagina, and that hence at these times abortion is most to be apprehended. Now it can be easily understood how any slight hemorrhagic discharge from the uterus at this period can be mistaken for menstruation. And again, we can readily suppose, what, indeed, Mr. Whitehead's researches have shown does occur, that any ulcerated surface on the os uteri, or contiguous portion of the vagina, may become a source of sanguine exudation during the con-



tinuance of this hyperemic state of the internal genitals. In one or other of these ways we would explain all the cases of so-called menstruation during pregnancy. On purely anatomical grounds we have always rejected the possibility of true menstruation taking place from the gravid uterus.

We cannot conclude this notice without adverting briefly to the contents of the last chapter, entitled, "Pathology and Treatment of Sanguineous Pelvic Tumours," as this is a subject comparatively new to the readers of English medical literature. Dr. Tilt's definition of these is, "Cystic tumours formed by the effusion of blood in or out of the peritoneum which lines the pelvis." Some examples are given of this very rare disease, but only one of them occurred in Dr. Tilt's own practice.

"With respect to the predisposing causes of the intra-peritoneal sanguineous tumours, we may notice the varicose development of the sub-peritoneal veins, as in a fatal case seen by Marjolin, subsequent to repeated pregnancies or miscarriages. Violent efforts, menstruation, and miscarriages, seem to have been the determining causes, to which we may add the rupture of a pelvic aneurism; in Piogey's case, acute ovarian disease, and hemorrhage at the menstrual period into the cellular tissue surrounding the ovaries; and with respect to the causes of intra-peritoneal sanguineous pelvic tumours, the obstruction of the menstrual flow, the rupture of Fallopian tubes may cause the complaint; and Denonvillier's fatal case shows that it may be caused by ovarian hemorrhage occurring during the process of ovulation."

The diagnosis of these tumours, as may be readily conceived, is very obscure. The sudden appearance of tumour,—the initial symptoms of collapse followed by localized peritonitis,—pressure on the upper and posterior part of the vaginal canal, and on the anterior wall of the rectum,—the absence of any pulsatile movement, and, in some cases, the existence of fluctuation,—are the leading symptoms to guide us in the recognition of these formations. According to the testimony of those who have seen and recorded most examples of this disease, the patients had nearly all suffered, more or less, from dysmenorrhœa. As to the result of these cases of pelvic sanguineous tumour, Dr. Tilt tells us that, generally speaking, they end favourably, even when they open into the rectum or the vagina, and that many of them terminate by resolution.

Dr. Tilt concludes his work with a Bibliographical Index, alleging as a reason, that he has been struck with the inaccuracy of the references given in medical works, and very properly remarking, that the way to prevent this evil would be "for authors never to transcribe a reference without having

ascertained its correctness by consulting the original." The necessity there exists for this piece of advice cannot be better exemplified than by the fact of the author himself being guilty of inexactitude similar to what he complains of in others; as, in nearly every instance where he has occasion to refer to this Journal, he misquotes our name, calling us the Dublin Medical and Surgical Review! This index will, as far as it goes, be useful to the student of ovarian and uterine pathology, but it is, of course, exceedingly limited.

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*L'Huile de Foie de Morue, envisagée sous tous les Rapports comme Moyen Thérapeutique.* Par L. J. DE JONGH, Docteur-médecin à La Haye. Paris: Victor Masson. 1853. 8vo, pp. 262.

IN the ninth volume of our present Series<sup>a</sup> we reviewed at some length the therapeutical history of cod-liver oil, and its introduction into the practice of medicine, taking as our leading text-book the English translation of the first edition of De Jongh's book by Dr. Carey. Of the present treatise by the same author no translation has yet appeared, but we hasten to make our readers acquainted with its publication, although we are at present unable to afford space for any review of its contents. Dr. De Jongh states in his preface, that this is not to be regarded as a new edition of his former essay, for, with the exception of the analysis of the three species of the oil then published by him, all else is new. Several varieties of the oil recognised since then have been examined, and their composition given; a chapter on its adulterations and their mode of detection has been added; and the description of its therapeutical properties, with rules for its administration, includes the most recent advancement of our knowledge regarding this most important aid to the physician in the treatment of disease: in short, we are acquainted with no work which embraces so completely all that is known regarding cod-liver oil, and we therefore warmly recommend it to the notice of the profession; nor in doing so can we refrain from bestowing our praise on the getting out of the volume,—its beautiful paper and typography, so highly creditable to the now celebrated publishing house of Masson.

<sup>a</sup> Page 412.



*Copy of a Letter from Dr. E. Seaton to Viscount Palmerston, with enclosed Copy of a Report on the State of Small-pox and Vaccination in England and Wales, and other Countries, and on Compulsory Vaccination; with Tables and Appendices.* Presented to the President and Council of the Epidemiological Society by the Small-pox and Vaccination Committee, March 26, 1853. Parliamentary Paper, Folio, pp. 64.

THE Report before us, though not so extended as was at first contemplated (its more immediate object being to show from the statistics of small-pox the mischief resulting from the too culpable neglect of vaccination), still contains a mass of valuable information as regards the mortality from small-pox in Great Britain and Ireland, as also in various countries in Europe, with some remarks on the laws and regulations connected with vaccination as enforced in different countries. The sources whence the data are derived are highly authentic, being principally documents obtained from various public authorities, as also replies to queries addressed to the public vaccinators, and such other members of the profession as were known to have paid particular attention to these subjects.

The evils of unchecked small-pox are clearly demonstrated, as also the efficiency and entire safeness of vaccination as a prophylactic. The latter position is affirmed by the general immunity from small-pox enjoyed by the vaccinated, and further, by the gradual decrease in mortality from small-pox since the introduction of vaccination; as also by the fact, that those countries are freest from variola in which vaccination is most effectually carried out, whether by a system of compulsion, direct or indirect, or one of rewards and encouragements. These conclusions are deduced from numerous Tables, drawn up from the statistical returns already alluded to, whereby it is clearly shown that the mortality from small-pox in England and Wales, —where vaccination is entirely voluntary, except for those who enter the military or naval service, &c., not any inducements even being held out to medical men to encourage them to promote its extension,—is considerably more than *double* what it is in any country in which the being submitted to the prophylactic means is compulsory. Hence the Committee advocates the passing an enactment for rendering vaccination compulsory, a suggestion in which we entirely concur; the mode of enforcing its observance being the principal difficulty to be contended with. As to the justifiableness of such a proceeding, we quote the following passage:

“The principle of so using one’s own as not to injure another’s, is one which has always been acted upon in our legislation as regards property and personal nuisances, and we submit that it is but an extension of this principle to apply it to the questions of life and health.

“If good laws could be so worked as to secure universal vaccination, there is little doubt that the mortality from small-pox might be reduced everywhere, if, indeed, it might not be wholly got rid of.”

In the kingdom of Hanover, where the laws with reference to vaccination are particularly strict, a penalty of fine or imprisonment is inflicted on all who disobey. In the year 1847, out of a total mortality of 45,850, there were but *eight* deaths from small-pox, or 1 in 5,728. And Dr. Watson states, that in Denmark variola had at one time disappeared before the defensive influence of compelled vaccination, though, he adds, that chance and a careless security, engendered by the absence of the pest, have led to its re-introduction there.

We quite agree with the Committee in their remarks as to the time at which vaccination ought to be performed. From these Tables it would appear that in a very large proportion of children it was not attempted till after the expiration of a year and upwards: this we deem a great oversight. The Dublin Vaccine Institution advises from the second to the fourth month as the most suitable period, and, as a general rule, we think it might be advantageously adopted, liable, however, to exceptions to be certified by some medical referee. But it would extend this notice to too great a length were we to go more into detail; we shall, therefore, conclude with a few remarks on vaccination in Ireland as referred to in this report.

The great neglect of vaccination, and popular prejudice in favour of inoculation with variolous matter, more especially in the rural districts of Ireland, as alluded to in a report by Mr. Wilde, Assistant Commissioner of the Census of 1851, to the Lord Lieutenant, are points worthy of fixing our serious consideration:

“No less than 58,006 deaths from small-pox were returned to the Census Commissioners for the ten years ending the 6th June, 1841, and I have reason to believe that the numbers will be *little less* for the decade ending in March, 1851.”

The following are some of the suggestions offered:

“That the constabulary should be directed to summon all persons known to propagate small-pox by inoculation, and that the attention of the resident magistrate should be called to the circumstance.



That all persons entering a workhouse who do not exhibit the marks of small-pox, or the evident traces of inoculation or vaccination, should be immediately vaccinated by the medical attendant of such workhouse."

With reference to the present system of propagating vaccination in Ireland, according to the regulations of the Medical Charities Act, the public dispensaries are obliged to provide vaccination for all applying thereto for such purpose; but we would direct attention to what we consider a great defect in the manner of carrying this out, viz., the want of some provision for enforcing (for the purpose of inspection) the return of those submitted to the operation; and though, from their not returning, the inference may possibly be drawn that the vaccination has taken effect, still there is not any certainty thereof; nay, often far otherwise. It does not by any means follow that every child whose arm shall become inflamed, after having had vaccine virus inserted therein, is thereby protected against small-pox,—inasmuch as if the disease present not in the successive stages its specific characters, from the first appearance of the papula to the formation of the vesicle, the natural development of the areola, and final healthy exfoliation of the crust, which can only be ascertained by repeated inspections, the system cannot be considered to have been salutarily affected. The contrary we have good reason for feeling assured is too often the case, and such, we are satisfied, has favoured the spread of the notion of the inefficacy of vaccination as a prophylactic.

Another disadvantage, though of minor importance, arising from children not being brought back for inspection, is, the loss of a supply of vaccine lymph, which otherwise might thus be obtained. We quite agree in the prudence of establishing a distinct depot for the collection and distribution of pure vaccine lymph. This object has, by the Dublin Cowpock Institution, been, for now nearly half a century, well carried out, considering its means. Originated by a few eminent physicians and surgeons of this city, it has depended for support principally on subscriptions and the sale of lymph, assisted by a small Government grant, which, though subsequently increased, is still of small amount, when we consider the benefits resulting to society from its operations. This Institution, we do not hesitate to say, should be the legitimate depot; and, from the experience and character of its directors and medical officers, it would, we have no doubt, if aided on a scale proportionate to its usefulness, be fully equal to meet the demands of the United Kingdom.

*Report of the Central Board of Health of Jamaica.* Spanish Town: 1852. 8vo, pp. 289.

*Appendix to the Report of the Central Board of Health of Jamaica.* Spanish Town: 1852. 8vo, pp. 272.

WHILE perusing these Reports we were forcibly reminded of the following passage from the clinical lectures of our lamented friend and contributor, the late Dr. Graves:—

“He who gives instruction to a clinical class in Berlin, Stockholm, Vienna, or Paris, has much to answer for, if he discharge not his duties with zeal and diligence. Yet if he fail to make his pupils good practitioners, their errors, however deplorable, are circumscribed within comparatively narrow bounds, and limited in a great degree to their own countrymen. But the British teacher sits in the centre of a circle far wider than Sweden or Prussia, Austria or France; his pupils are to be met with practising in every climate, exercising their art in almost every habitable region of the globe, and dispensing the blessings of health to all races of mankind: to the hardy white settlers of Canada, the aboriginal red-skins of North America, the negroes of Jamaica, the Hottentots and Caffres of Africa, and the countless tribes of Hindostan.” Universality in the observation of disease is one of the characteristics of British medicine. In every part of the inhabited world are to be found our brethren engaged in their professional avocation, and possibly in no quarter of the globe does disease exhibit a more terrible aspect, requiring all the resistance which medical aid can afford, than in the West Indies. We are, therefore, much gratified at the appearance of this Report. It was drawn up for the information of the local Legislature by the Central Board of Health of Jamaica, with the co-operation of Dr. Gavin Milroy, who had been sent out as medical inspector during the epidemic of cholera. It does not, however, relate altogether to the cholera epidemic of 1851–52, but rather to the public health, sanitary condition, and arrangements of the island, and is, we believe, the first official medical report *published* from our West Indian possessions. We hope the laudable example thus set will be followed by the profession in others of our colonies; an immense amount of valuable information would thus be accumulated, and a knowledge of the phases which disease presents in different parts of the world be made familiar to us who dwell at home.

The first part of the Report relates to the subject of quarantine. It is neither our purpose nor our inclination to



enter into the consideration of this question at present. We will not engage in the battle between the contagionists and non-contagionists; for we believe that discussion on this subject bears a strict analogy to religious controversy, by which invariably no change of opinion is produced, although much logic and precious time be wasted.

This *vexata questio* has evidently intruded itself in the preparation of the Report before us, and it would appear that the non-contagionists have had the majority on their side. Its introduction, however, has led to an apparent inconsistency; thus, in page 4 of the Appendix, we find the following suggested rule:

“The said Central Board of Health shall have full power, and they are hereby authorized to require the immediate removal and interment of the dead, and to make and issue all rules and regulations respecting burial-grounds, means for the removal of the dead, and mode of sepulture, and to prohibit wakes and other idle congregations of persons in infected districts or places.”

While in page 17 we read this passage:—

“With respect to the interment of persons who die from cholera, the Central Board are of opinion, that the prevalent notion that a dead body is more liable to retain and give off infectious effluvia than a living one, is not warranted by any authenticated fact within their knowledge.”

The objects of the Board are evident:—1st, To prevent crowds assembling at wakes, &c. 2ndly. To give confidence to the attendants of the sick. Both results might be gained under proper management without any allusion to contagion, and the expression of difference of opinion be thus avoided: for, Dr. Turner, President of the College of Physicians and Surgeons of Jamaica, attached a dissent from the doctrine of non-contagion contained in the notification respecting the bodies of those who die of cholera.

Medical men, in dealing with the people during an epidemic, should neither give rise to carelessness from a supposed security which may be false, nor, on the other hand, create a panic in the public mind by promulgating the idea of the infectiousness of disease. In courts of law, when conflicting circumstances render a decision imprudent as a precedent, the court declares “no rule.” We would recommend a similar course in what may be termed medical legislation, when the subject involves the question of the contagious character of disease. The educated physician, whether he be a contagionist

or the contrary, must subscribe to the value of sanitary measures; and if such as are recommended in the volume before us be carried into effect, pestilence will not hereafter assume the awful character which it presented in Jamaica, as well as in Ireland.

The Report notices, also, the sanitary state and social condition of the poor in towns and agricultural districts. The analogy between Jamaica and Ireland under this head is too remarkable to be passed by unnoticed, and the picture presented is melancholy indeed. It is not within our sphere to inquire into the causes which have produced such misery and degradation of the lower classes in two of the most fertile islands in the world, and which were mainly instrumental in the production of an unprecedented epidemical mortality.

We regret to observe that the social position of the great number of the medical practitioners in Jamaica is very similar to that of their brethren with us. In both places the local authorities appear to think that the cheaper medical services can be obtained the better,—forgetful of the important fact, that every one in the land has an interest in upholding the status of the medical profession, as, should it degenerate into a mere trade, men of a high order of mind will cease to engage in its pursuit, and then ignorant presumption and bad practice must bring home to each family fearful results.

Before concluding our necessarily short notice of this Report, we must observe, that the Central Board of Health of Jamaica, with the assistance of Dr. Milroy, is deserving of the highest commendation for the sound views inculcated, and the efficient sanitary measures recommended by it. We cannot say so much in praise of the style and typography of the volumes, but every allowance should be made considering the circumstances under which they have been brought out. We are so pleased with the spirit of the entire that we must overlook minor faults, particularly as the experience now gained will, we are confident, prevent such defects in any future report which may issue from the medical practitioners of Jamaica.



## PART III.

### MEDICAL MISCELLANY.

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#### TRANSACTIONS OF THE ASSOCIATION OF THE FELLOWS AND LICENTIATES OF THE KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.

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SESSION 1852-53.

FIRST MEETING, NOVEMBER 3RD, 1852.

DR. AQUILLA SMITH described the effects he witnessed as consequent on the administration of the nitrate of tellurium, some of which had been sent to him by Professor Simpson, of Edinburgh, at whose request he made some experiments on its medicinal action.

Tuesday, August 31st, 1852. At noon, one half-grain pill was administered to each of the following patients in Sir Patrick Dun's Hospital:—Christopher Connor, aged 32, under treatment for chronic pleurisy, and John Shalvey, under treatment for a venereal eruption. The two patients lay in beds about five feet apart, in a spacious and well-ventilated ward. Sept 1. A peculiar odour was perceived from Connor's breath, but none from Shalvey. A pill was administered to each patient at noon. Sept. 2. An alliaceous odour was very perceptible: two physicians noticed it immediately on entering the ward. A third pill was administered to each of the patients at noon. Sept. 3. The odour to-day was very strong, and so offensive that the nurse and the other patients in the ward complained of it; the two patients also were very sensible of it, and remarked that they had a very disagreeable taste in their mouths. Shalvey, who was a sailor, said the taste was like garlic. One of the physicians, who saw the patients the day before, was so disgusted that, on entering the ward to-day, he retired immediately. The odour was very like that emitted by metallic arsenic when volatilized. Each patient having taken three pills, and the effect being so palpable, Dr. Smith did not consider it necessary to pursue the experiment. On questioning the patients minutely, he

could not ascertain that any other particular effect had been produced by the pills. Shalvey said, they made him perspire more than usual. Sept. 4. The smell through the ward was diminished, but the exhalation from the patients' lungs was very offensive. Sept. 5. The peculiar odour less evident on entering the room. Sept. 8. Connor's breath still retained the peculiar smell very strongly; Shalvey was quite free from it. The latter patient, during the experiment, did not emit as strong an odour as Connor. The increased perspiration may have eliminated the tellurium more rapidly than in the case of Connor, who did not perspire more than usual. Sept. 16. Connor's breath still retains the odour, which is not perceptible when standing close over him.

DR. OSBORNE read a paper entitled, "Some leading facts to be recollected in the examination of the fæces in disease"<sup>a</sup>.

DR. LEES described a case of diabetes, in which he had administered rennet with rather favourable results. Eventually the case terminated fatally from an attack of fever, and on the post-mortem examination tubercles were found in the liver, spleen, &c.<sup>b</sup>

#### SECOND MEETING, DECEMBER 1, 1852.

PROFESSOR LAW read the following Essay on the complication or alternation of affections of the chest and the brain. "This subject is not a new one to this Association, having been already under its notice. But the aspect under which I present it differs in this respect, that while the communication to which I refer as before occupying the attention of the Association exhibited the complication originating with the brain, and the thoracic organs being subsequently involved, that which I now make presents an inverse order of evolution in the complication in which the affection of the thoracic organ precedes, and that of the brain comes on at a later period. When we reflect upon the complexity of the animal body, and consider it as a machine composed of several lesser machines, all co-operating to one great end, while each performs its distinct and separate functions; and when we further reflect on the more or less intimate relations existing between these several component parts of the general machine, relations arising out of similarity of structure or association of function,—we wonder less at the complication of disease than at its simplicity or isolation. The accidental or incidental appearance of another disease in the progress of an already existing one is ever a subject of deep interest to the pathologist and to the practical physician. It often embarrasses his diagnosis, and not unfrequently interferes with the simplicity of his treatment. How often is it the case, that disease has been of long

<sup>a</sup> Published at length in the Dublin Quarterly Journal of Medical Science, vol. xv. p. 104.

<sup>b</sup> Published in the Dublin Quarterly Journal of Medical Science, vol. xv. p. 469.



standing before it has been brought under the notice of the physician! This may occur from various causes. Many of our poor hospital patients cannot afford to attend to the early intimations of disease, and therefore struggle against it until they are forced to yield. How often have we presented to us patients affected with dropsy whose story is this:—That either he or she has had a cough for several years past, that each year the cough has become worse and the breathing more difficult than the preceding year; that the difficulty of breathing was now constant; that now palpitation of the heart became inconvenient, but that they still struggled on till the dropsy had quite disabled them. What a complication have we here, and how remote is the last link of the morbid chain from the first! An original bronchitis produced emphysema of the lungs, which has rendered the organ more susceptible of future attacks. Each succeeding bronchitis increased the emphysema, which, by obstructing the pulmonary circulation, caused congestion of the right side of the heart, and consequent congestion of the two cavæ, and therefore, of the general venous system, upon which the dropsy, as a distant result, ensued. The physician will have little difficulty in unravelling this complication. But the task is not always so easy; it will happen that disease will be so insidious in its progress, and so obscure in its symptoms, as to escape notice until it has become complicated by involving some organ whose derangement is more calculated to arrest attention. Here the more palpable and prominent symptoms of the secondary affection may so obscure the primary one as to cause it to be overlooked. We have seen a functional derangement of the heart cause a malignant disease of the stomach to be overlooked until this latter, extending up into the œsophagus, almost completely obstructed deglutition, and then was discovered. This fact will appear less strange when we consider how often post-mortem examinations discover to us extensive malignant disease of the stomach, which no symptoms during life betrayed, because the diseased part involved neither orifice. We have also seen mitral valve disease obscured by the more prominent symptoms of hæmatemesis to which, with other congestions, the cardiac disease had given rise. I could multiply such examples, but I am sure that many such are familiar to most of my audience. Although complication often does obscure disease, and embarrass its diagnosis, it is but fair to admit that such is not always the case, but that in some instances it tends to its discovery and detection. How often will aneurism of the aorta exist without any suspicion of its existence until the tumour by its increased growth compresses either the trachea or one of the bronchi, or a portion of the lungs or the œsophagus, when its interference with the function of either of these organs will lead to an examination issuing in its discovery? Such I believe to have been the history of this case of cyanosis which came under my care three days before the death of the individual. The drawing which is here presented, and which exhibits a more livid and congested appearance of the face

than I ever saw in Asiatic cholera, is no exaggeration; it is a faithful portrait. The pathological preparation removed from the body exhibits the disease, which consisted in an aneurism of the ascending aorta, so compressing the descending vena cava as nearly to obliterate its canal. Between the aneurism and the vein there was a very small opening. The information we were able to obtain furnished us with no grounds for supposing that the individual had any suspicion of his labouring under any serious disease, for he had never applied for medical advice. The day before he came under my care, and four days before his death, he threw himself upon a sofa, when he was suddenly seized with an indescribable sense of præcordial distress, upon which followed immediately the deep livid complexion of his face, which continued unchanged till his death. The aneurism indicated its existence by a double pulsation, without any abnormal sound, behind the sternum.

“ Various have been the attempts made at different times to classify the complications of disease, and to reduce them to general laws and principles. But I cannot say that such attempts have been very successful, nor indeed could it have been expected that they should have proved so, as a satisfactory classification would require a greater amount of knowledge in the different departments of medical science, to serve as a basis for such classification, than actually existed at the time when such attempts were made. There is no arrogancy or presumption in asserting that our improved knowledge of anatomy, physiology, pathology, and organic chemistry, has fitted us for taking exceptions to existing classifications, and for demanding a remodelling of this subject, which is so full of interest, as well to the science as to the practice of medicine. Has not anatomy, by identifying the external structures and tissues, the seat of articular rheumatism, with the enveloping and lining membranes of the heart, explained to us the frequency of the complication of articular rheumatism and endo- and pericarditis? How many hitherto inexplicable and mysterious phenomena, exhibiting themselves in the nervous system in consequence of affections of different organs and tissues, have been rendered intelligible by the discovery of the reflex function of this system? Do we not here find the explanation of the convulsions dependent on intestinal irritation and on dentition? Is not this the key to that extraordinary complication—pericarditis and chorea?

“ Has not our increased knowledge of organic chemistry done much for us in explaining certain nervous phenomena, such as coma and convulsions, produced by the blood containing in it certain deleterious elements which ought to be separated from it. Are we not now in a position to understand the convulsions that so often usher in the fatal termination of jaundice and of Bright’s disease of the kidney? But whatever progress we have made in these several branches of medical science, and thus in a degree surmounted the difficulties and embarrassments that hitherto stood in the way of our analysis of complicated disease, much still remains to



be done before we can flatter ourselves that we can relax our efforts, and remain satisfied with what has already been effected. How much have we still to learn of the pathological conditions of the blood? And when we consider the influence that the various conditions of this fluid must exercise on the several organs that it supplies, and which derive their life from it, what hope have we of thoroughly understanding disease until we have attained to such a knowledge of this mysterious fluid as we should require for this purpose, and which the very nature of the subject seems almost to refuse us? I will now bring before the Association two cases illustrating these remarks.

“A gentleman, aged 50, engaged in the duties of a profession in which his mind was much on the stretch, especially at the time I saw him, who had generally good health, although he exhibited indications of a gouty habit but never had a distinct fit of gout, requested me to call to see him. I found him hanging over the fire—it was in the month of December—and looking most wretchedly. He told me, that about a month before, he got wet while riding, and continued for a considerable time in his wet clothes. Since then he never felt himself well, but still was not so ill as to confine himself to the house. What distressed him most was palpitation of the heart, and as he thought that this was a sure sign of heart disease, he dreaded seeing a medical man, lest he should be declared to be labouring under a disease which he believed was incurable; what led him to apply to me was, that he felt his symptoms considerably aggravated from having walked home from a dinner-party without his great coat two nights before. I found him, as I remarked, looking extremely ill; his expression indicated great distress. His respiration was quick; he could not make a full inspiration without feeling a sharp, lancinating pain in the left side, below the breast. All the left side of the chest, both anteriorly and posteriorly, was dull to percussion, and the respiration, wherever heard, was extremely feeble except along the posterior margin of the scapula. The heart beat strongly, but without any abnormal sound, and in its normal position. There was no apparent dilatation of the side. All the right side of the chest, both anteriorly and posteriorly, was clear to percussion. The respiration in it was weaker than natural, as it ordinarily is in the unaffected as well as the affected side in the earliest stage of pleuritis, when a full inspiration would cause pain, which the patient instinctively avoids, and when the small quantity of air admitted at each inspiration is compensated by the frequency of the act, until, the pain ceasing and effusion taking place and compressing the lung, puerile respiration now establishes itself in the other lung. The tongue was densely coated with a thick yellowish fur. The pulse was quick; there was no unusual heat of skin; I directed sixteen leeches to be applied to the side, and that he should have a mercurial purgative. The next day I found that the pain of the side had quite gone, and that the whole of the left side was more decidedly dull to percussion than on the

preceding day. This dull sound involved the whole side, both anteriorly and posteriorly. Inspiration was heard very feebly in the posterior superior region, and also inferiorly and externally below the mamma. There was neither ægophony nor bronchial respiration. There was no appreciable dilatation of the side. The heart was heard pulsating in its normal position. The respiration in the right side was now puerile; there was little doubt of there being extensive effusion into the left side. Still, there were some phenomena that caused some difficulty in the diagnosis. These were, the respiration being heard in certain parts where we should not have expected to have heard it in a case of simple effusion; again, the heart retaining its normal position, with such an amount of effusion as must necessarily be present to produce such an extent of dulness on percussion as existed. The history of the case supplied me with an explanation of these perplexing phenomena. I had no doubt that there had been two distinct attacks of inflammation of the side: the first dating itself from the wetting he got a month before, and to which he referred his first feelings of illness, among which palpitation of the heart was a prominent symptom. I conceived it highly probable that, in consequence of this inflammation, an adhesion formed between the external surface of the pericardium and the pleura lining the internal surface of the lung, and that this adhesion retained the heart in its normal place, which would otherwise have yielded to the pressure of the fluid, and have been displaced. I also referred the respiration that was heard to adhesive bands extending from one pleura to the other, and thus serving as conductors of it. The second attack, and which brought him under my notice was, as we before stated, of only two days' duration when I saw him. The circumstances, too, under which this attack arose, confirmed me in this opinion. He resided in Merriion-square, and had to entertain a party of gentlemen at dinner at an hotel in Sackville-street. We may presume, without any impeachment of his habitual sobriety, that he drank more wine than usual. He then walked home without a great coat. I would here remark how frequently I have observed inflammatory affections of the chest, and of an unhealthy character, to supervene on exposure to cold where the subjects had drunk stimulating beverages, and not even to excess. An instance I saw in a gentleman, who, when heated in cricketing, drank champagne and lay on the grass; he got pleuro-pneumonia, which degenerated into gangrene of the lung, marked by extreme fetor both of the breath and expectoration. He ultimately completely recovered. To return to the case; he was directed to be cupped in the side, and was ordered mercury, to be taken internally. The side was afterwards blistered, and the blistered surface dressed with mercurial ointment. There was little or no alteration in the condition of the side for some time. The stethoscopic signs continued *in statu quo*. His constitutional symptoms were very unpromising; he became very much emaciated; and his strength seemed quite to fail. Dr. Stokes



saw him with me occasionally, and apprehended some malignant disease of the lung besides the pleuritic effusion, a suspicion that his general appearance, which was habitually bilious and sallow, was calculated to excite. I did not share in this suspicion, but connected the unfavourable constitutional symptoms with his gouty habit. We were now obliged to discontinue the internal exhibition of the mercury in consequence of the intestinal irritation that it caused. His condition was now so alarming, that Sir Philip Crampton and Dr. Stokes, who saw him with me, expressed themselves most unfavourably as to the probable issue. Although the prospect was most discouraging, I ventured to hope against hope. Happily the mercurial dysentery quickly yielded to the means employed against it, and things having come to the worst, now appeared to assume a more favourable aspect. There seemed to be now, for the first time, some amendment in the chest affection, as indicated by the stethoscopic signs. The absorption of the effused fluid appeared to have begun. The clavicle sounded less dull to percussion. Diuretics were now directed for him, and acted most satisfactorily. The work of absorption went on steadily, and a feeble respiration was heard, from day to day, in a lower position, both anteriorly and posteriorly. The sound on percussion, too, was less dull. He now was able to lie down, and on the sound side, although hitherto he was obliged to remain constantly in the sitting posture. While matters were proceeding thus favourably, a new and unexpected phenomenon presented itself. His mind, that had hitherto been calm and collected, became very disturbed and excited. At first he had hallucinations like those of delirium tremens, and fancied that animals were running over him in bed, and provided himself with a stick to drive them away. When these delusions passed away, which they did in a few days, his mind became very much excited on the subject of his professional business. He would leave his bed at two or three o'clock in the morning to write long legal details and instructions for the Attorney-General to carry on prosecutions; a subject on which his mind was very anxious at the time his illness began. It was perfectly useless to try to persuade him that he ought to give up all thoughts of business. He persisted in writing his papers, which proved the very unsettled and unsound state of his mind. This state of things continuing for some days, and with no appearance of amendment, Sir Philip Crampton saw him, and concurred with me in opinion, that he should remove to Kingstown, so as to be out of the reach of all business. He gave it as his opinion, that the case would issue in permanent insanity. He went to Kingstown, but did not derive any benefit from it. He returned to his own house, and by very slow degrees his mind recovered itself. He had a most tedious convalescence, but his recovery was complete. He is now as competent for business as ever he was. The affected side of the chest is still dull to percussion, and the respiration feeble; it is also less in its dimensions than the opposite side. How are we to explain the cerebral

disturbance in this case? It came on at the moment the affection of the chest began to amend. Is it an alternation of morbid action, modified by the temperament of the individual—a man of an active and anxious mind? Had the gouty diathesis anything to say to the cerebral affection by any change it might have produced in the blood sent to the brain? These are questions that the case seems to suggest.

“The second case was that of a youth, Hugh Moore, aged 15, of a slight, delicate figure, a watchmaker by trade, admitted under my care into Sir Patrick Dun’s Hospital, affected with painful swellings of the knees and ankles, and also complaining of pain in the cardiac region. The stethoscope indicated no abnormal sound of the heart; the pulse was very rapid; skin hot; tongue furred. Next day, in addition to preceding symptoms, there was dulness on percussion, and absence of respiration at the base of both lungs posteriorly. When he went on his hands and knees, with the body bent, the sound became clear, and respiration was heard in the posterior inferior right side, while the change of position produced no change in the phenomena of the postero-inferior left, where the sound continued dull and the respiration was bronchial. It was plainly a case of acute rheumatism, involving the joints and the heart, and causing effusion into the cavity of the right pleura and pneumonia of the left lung. He was bled to twelve ounces, and was ordered pills of calomel and opium: the blood was buffed and cupped. As he still felt pain in the cardiac region, twelve leeches were directed to be applied there. The pain disappeared, but there was an increase of dulness on percussion. I shall not enter into a more minute detail of the case, but content myself with stating that the mercury was continued till his mouth became sore, when all the symptoms which he first exhibited improved; his breathing became free, a friction murmur that was heard at the base of the heart disappeared, nor was there reason to suspect an adhesion of the pericardium. He was three weeks under my care when he exhibited a peculiar vacancy of expression of countenance, and remarkable dilatation of the pupils; and the next day he was reported to have been raving all night; pulse 114 in the minute; pupils greatly dilated. We directed arrow-root and wine for him. His friends now came and removed him from the hospital, alarmed by the wildness of his expression, and expecting no other event than his death, which they preferred to occur at home rather than at the hospital. At the end of a week they brought him back again, reporting that from the time he was removed from the hospital he never ceased to rave at night, while during the day he remained in a listless, stupid state. He now presented the following phenomena:—A marked vacancy and stolidity of expression; he answers questions slowly, but correctly; his pupils are greatly dilated; he had still some cough. I ordered for him decoction of Iceland moss and carbonate of ammonia, and directed a mutton chop for his dinner, and six ounces of wine. He slept well this night, and had no delirium.



Next morning he appeared more intelligent; his memory was much impaired; his emaciation extreme. I now substituted sulphate of quina for the carbonate of ammonia, and gave him generous diet. He gradually recovered his intelligence and strength, and at the end of a fortnight from his re-admission left the hospital comparatively restored to health. As we may regard treatment as a sort of test of the nature of disease, it might be concluded, from the success of the tonic treatment employed in this case as soon as the cerebral complication appeared, that this complication depended on the general debility, in which the brain bore its share, and which it exhibited in its deranged function. But the point to which I would direct attention is the time at which the delirium began, and which, being the same in the two cases, induced me to class them together, —when the chest affection began to improve. We might connect the delirium in the last case with the treatment that the urgency of the symptoms seemed to demand. But if this were the sole cause, would it not have followed more immediately, and not at a period so remote from when this treatment was employed? I cannot refer the delirium in the former case to the same cause, as there had been exceedingly little depletion employed. While we recognise an agreement between the two cases in the delirium coming on in both when the chest affection had improved, we see a difference between them in the nature of the cerebral disturbance that exhibited itself in each. In one, we suspect the quality of the blood and the moral temperament of the individual co-operated to give a peculiar character to the cerebral affection; while in the other we see the common and frequent effect of deficient supply of blood to the brain.”

DR. NELIGAN reported a case of intermittent fever in which the sulphate of bebeerina was employed with complete success. He prefaced the report by remarking on the interest at present attached to the discovery of substitutes for bark and its alkaloid quina, in consequence not alone of the high price and present scarcity of that valuable medicine, but from the probability of the supply of it completely failing at no distant period, owing to the reckless manner in which the cinchona trees in South America were destroyed while being stripped of their bark. Amongst the French especially this subject had excited great attention, ague prevailing much in that nation and in its new colony, Algeria; and the Academy of Medicine in Paris had recently proposed a prize for the discovery of the best substitute, to decide which a committee of that body was at present sitting. Dr. Neligan then remarked on the various drugs which had been used and proposed for the treatment of intermittent fever, referring, in particular, to the active principles of the willow—salicin, of black pepper—piperin, and of the greenheart tree of British Guiana (*Nectandra rodiei*)—bebeerina. The latter, he stated, he had used as a tonic and antiperiodic in numerous cases since it was first introduced into British medical practice in 1845 by his friend, Dr. Douglas Maclagan of Edinburgh; and in very few cases had its effects

disappointed him, but he had found it especially useful in diseases assuming a periodic character.

The case which Dr. Neligan was about to lay the particulars of before the Association was also interesting, from the great rarity of ague in Dublin for many years back; while in the commencement of this century, and previously, evidence existed to prove its great prevalence, and this was true of all Ireland as well as of Dublin. For the last ten years, during which time Dr. Neligan had been physician to Jervis-street Hospital, two cases only of ague were admitted into his wards, and in both the disease had been contracted in England.

“Thomas Keane, aged 37, a labourer, was admitted into Jervis-street Hospital, June 19, 1852, labouring under quotidian ague. He stated that twelve months ago, while working in England, in Cambridgeshire, during harvest time he was attacked with the disease in a slight form, when he was cured in a few days. He had no return until about a fortnight since, when he was suddenly seized with a shivering fit while at work in the hold of a corn vessel from the Black Sea. The fits daily became much increased in severity, and had recurred with the greatest regularity. Each fit lasted for about four hours, including the several stages. The fit recurs daily, but each day three hours earlier than on the one which preceded it, the interval being thus twenty-one and not twenty-four hours, and the intermission lasting for nineteen and not twenty-two hours. On admission he presented a pale, anemic appearance, with an anxious countenance; the pulse weak and compressible, the appetite bad, the tongue coated, and the bowels confined. He complained of great debility, and said that he had been rapidly losing flesh. On examination of the abdominal region, the spleen was found to be considerably enlarged, and the patient stated that he remarked his left side swell and become hard during the fit. The lungs, heart, and liver, appeared to be healthy.

“June 21st. He was ordered to have a warm bath, a turpentine enema to be administered, and to take a pill containing three grains of sulphate of bebeerina every three hours.

“22nd. Fit occurred, he states, at the regular hour, four o'clock in the evening; bowels still constipated. The bebeerina was directed to be omitted in order not to interfere with the fit, which Dr. Neligan wished to see him in.

“23rd. Fit recurred yesterday at 1 o'clock, and now, 10½ o'clock, A. M., he is in the shivering fit, which is of extreme severity, so much so as to shake his bed, and almost every bed in the ward. To have house medicine.

“24th. He had the fit this morning at 7 o'clock, A. M. The bebeerina was resumed with him in the same doses as at first.

“26th. No fit yesterday morning, but it commenced at 1 o'clock last night, the regular period, reckoning for yesterday's omission. He was now ordered to take a bolus containing thirty grains of the sulphate of bebeerina, and five grains of Dover's powder.

“29th. No fit for the last two days, but it recurred yesterday at



4 o'clock, P. M., still observing the same periodicity of intermission. Bolus to be repeated.

"30th. Recurred yesterday, but not until 7 o'clock in the evening, being thus protracted for six hours. Bolus to be repeated.

"July 2nd. No fit on the 30th; recurred yesterday at 4 o'clock, P. M., thus assuming a tertian type. Bolus repeated.

"3rd. 10 A. M. Bowels confined; feels the fit now coming on; it did occur, but its duration was short. To have two cathartic pills. Bolus repeated.

"5th. The fits have now assumed the tertian type with still three hours in advance. Bolus to be taken twice daily.

"7th. Report same as on the 5th. To continue the bolus.

"8th. Fit expected to-day at 5 P. M. Bolus to be taken at four, P. M.

"13th. No fit since; feels quite cured; has had no medicine for the last five days. Dismissed.

"The total quantity of the sulphate of bebeerina taken amounted to 372 grains."

In conclusion, Dr. Neligan remarked that the cure was permanent in this case, as he saw the patient within the last few days, and there had been no return of the fits since he left hospital. He also stated that he had never witnessed any effect from the use of bebeerina similar to that which follows the administration of large doses of quina, and which had been termed quinism, but which, however, had been observed in some cases by Dr. MacLagan. In a case at present under Dr. Neligan's care 558 grains of the sulphate of this alkaloid had been administered within eleven days, and no ill effect or unpleasant symptom resulted. It was a case of severe neuralgic pain in the left side, with periodical remissions, occurring in a man aged 55. The disease had been of three years' duration, and was removed by the use of this remedy. On the whole, Dr. Neligan's experience of this substitute for quina was most satisfactory.

DR. CHURCHILL then narrated, in the following words, a case of ramollissement of one lobe of the cerebellum, with induration of the other, occurring in a young boy:—"I confess I was not aware how rare this disease is until I had to make some researches on the subject. I find no notice of such an attack separate from softening of the brain in Morgagni or Barker, which did not much surprise me, but neither do Abercrombie, Rostan, Rokitanski, or Hasse, notice it more than casually, if at all. Entering very fully into the question of softening of the brain and spinal marrow, most of them omit all mention of the cerebellum; those who do mention the cerebellum as the seat of this change, only do so very cursorily.

"Dr. Gross in his valuable work, mentions a case in which the cerebellum participated in the softening which affected the greater portion of the cerebrum; and he quotes M. Durand Fardell's table, in which we find the cerebellum the seat of softening once in fifty-three cases.

“M. Lallemand relates several cases in which softening existed; in one there was headach, phrensy, convulsive movements, and death occurring suddenly; but in this case there was also an abscess of the cerebellum and ulceration of the dura mater.

“In a second, more simple case of complete ramollissement of the white substance only of the cerebellum,—the symptoms were, loss of consciousness, aphonia, paralysis of the right side, and afterwards a return of intelligence, and sensibility of the paralyzed side; pulse full, hard, and frequent, afterwards irregular; respiration free. Death on the eighth day.

“In a third case there was arachnitis and softening of both brain and cerebellum, so that it is impossible to separate the symptoms of the one diseased portion from those dependent upon the other.

“Dr. Gall considers priapism as a characteristic symptom of inflammation of the cerebellum, and others have mentioned disturbance of the respiration or retention of urine as very characteristic.

“I have just alluded very briefly to the rarity of this disease, to the little information to be obtained from books, and to the uncertainty of there being any peculiar symptoms, in order to show the difficulty of the diagnosis, and to excuse my bringing a single case before the Society. The report of the case is as follows:—W. Boyd, aged 10, had a fall last April, and struck the back of his head against a window frame; he vomited immediately, and complained of headach, which, however, soon subsided. For a little time afterwards he seemed quite well, but then began to complain of headach, chiefly in the morning, accompanied by nausea, and sometimes by vomiting. This recurred two or three times a week, the intervening days being marked by freedom from suffering. In other respects he felt pretty well; his bowels were regular, his tongue clean, but his appetite diminished, and he gradually became very thin. In August last I was requested to visit him, and I then received the foregoing history, and found his state as follows:—Great emaciation; tongue quite clean; abdomen flaccid, without pain or tenderness; bowels quite regular, and very rarely requiring medicine; pulse unusually slow, not above 50 or 54; respiration natural, neither hurried nor difficult; muscular power equal on either side; neither weakness nor loss of power in either extremity beyond what was the result of his reduced state. Neither priapism nor any affection of the bladder, nor any convulsive movements, was present.

“The only positive complaint was the headach, which came on almost every morning in paroxysms ending in vomiting, after which he got ease. The vomiting never preceded the headach, nor was present when the head was free from pain. During the intervals of ease he took his food, and occasionally sat up, walked about, and amused himself with books or toys. So far from any diminution of intelligence, he appeared to me unusually sensible and clear for a boy of his age. Such was his state when I first saw him, and such it continued with but slight variations to the end. The headach



continued, not constant nor even regular in its recurrence: for a few days it would come on every morning, then an interval of three or four days, during which our hopes of recovery would be raised. The seat of it varied, frequently at the back, especially at the beginning; it latterly extended round to the forehead, over one or both eyes, or was limited to the latter situation. When severe, light seemed to aggravate his sufferings; but what seemed singular, firm pressure upon the occiput and forehead always afforded relief. The intensity of the pain varied, but upon the whole it decreased as the disease advanced; at first it was so agonizing as to call forth piercing shrieks; latterly he uttered feeble but most distressing moans. It was invariably accompanied by vomiting, not at the commencement of the pain, but after it had lasted a short time. I took trouble to ascertain accurately that the vomiting or even nausea never preceded the pain. The matters ejected were sometimes, but not always, food that he had previously taken, mucus mixed with colourless or greenish fluid, and sometimes bile. After the pain and sickness had subsided he took a little food with relish, but notwithstanding the emaciation made steady progress until he was reduced literally to skin and bone. The pulse, which was unusually slow when I saw him first, became even slower in proportion as he got worse; it fell to 40 on one day, when he was worse than usual; but though slow, it was always perfectly regular. For two days at one period there appeared two new symptoms: 1. He complained that he saw double, the appearance of the eyes being quite natural, no squinting, and the pupils neither contracted nor dilated, but answering to light perfectly,—this lasted nearly two days; 2. A week or so after this he had something like spasmodic action of both arms, which subsided after a few hours. Both occurred a month or so before death. His mind continued very clear till the day, I might say the moment, of death. No convulsions, nor paralysis, nor dyspnœa, nor priapism, nor difficulty of voiding urine, occurred at any time. His tongue continued clean, and his bowels very regular.

“Under these circumstances I need not say that the diagnosis was very difficult; our impression was that there was organic disease, an abscess, or perhaps tubercle, but even this seemed doubtful occasionally when the pain assumed rather the character of neuralgia, and was reduced by pressure and opiates.

“I need not detail minutely the treatment, as it did no good. Leeches in the first instance, blisters, which relieved him more than anything, calomel, opium, hydriodate of potash, bark, &c., were tried, and generally with some benefit at first, but failing finally. He died Oct. 21, 1852.

“I was fortunate enough to obtain permission to examine the head, and my friend Dr. Hardy was so kind as to make the post-mortem examination for me.

“On removing the skull there appeared more vascular congestion than usual, and on the arachnoid, where it crosses the division between the hemispheres, there was a small amount of tubercular de-

posit, with local but limited vascularity. The substance of the cerebrum was firm and natural, with no unusual vascularity; in the ventricles was a quantity of clear serum, but not more than might be effused just before or after death.

“The right lobe of the cerebellum was considerably firmer than natural, and perhaps rather more vascular than usual. The left lobe, or the posterior half of it, was softened to the consistence of gruel; it had lost all tenacity of texture; its colour was a muddy grey, and all the tissues were equally involved. My friend, Dr. Lyons, kindly examined this part under the microscope, and found that it was simply the tissue of the cerebellum, with no mixture of pus or of any foreign deposit.

“Tracing back the history of the case, I think we may be justified in concluding that the blow on the back of the head gave rise to inflammation of the cerebellum, which in the one lobe ended in softening, in the other in induration, whether, as some have supposed, these two states be merely different stages of the same morbid condition. How far this case affords support to those who, with Rostan, Abercrombie, and others, consider ramollissement the result of inflammation, or with Dr. Bennett, that it is analogous to suppuration, the Association can decide for itself. The case appears to me of great interest from the paucity of symptoms, and from the absence of those which are considered pathognomonic of the disease.”

Dr. Churchill also described two other cases, one of rupture of the vagina during labour, the uterus remaining intact; and the other a case of sudden death from peritonitis, caused by a very minute perforation of the intestine.

### THIRD MEETING, JANUARY 15, 1853.

DR. BANKS brought under the notice of the Association the following case. A boy, aged 10 years, was admitted into the Hardwicke Hospital on the 12th of November last. The mother of the child informed Dr. Banks that his illness was only of three days' duration; he had not been, that she was aware of, exposed to cold, nor had he received an injury of any kind. A severe shivering ushered in the disease; the left leg and knee were then observed to be swollen, and exquisitely tender to the touch, the slightest movement causing excessive pain, as proved by his loud exclamations. When the patient was presented for admission at the Hospital he was evidently “in extremis;” countenance expressive of great suffering; pulse scarcely to be felt at the wrist; heart's action feeble and very rapid; respiration much embarrassed, and loud, moist râles audible over the whole chest; the left leg much enlarged, and of a dark livid hue. Death occurred in a few hours afterwards. On necroscopic examination, there was evidence of intense and universal bronchitis, and of extensive congestion of the lungs; specks of purulent matter existed in the tissue of these organs. A portion of the left tibia, which Dr. Banks exhibited to the Association, was denuded of its



periosteum, and rough on its surface, and a considerable quantity of pus, of a greenish colour, had been effused beneath the periosteum, which was much thickened and highly vascular.

Dr. Banks observed, that this case presented an example of a disease not very frequently met with in practice, which he looked upon as a form of diffuse inflammation,—a malady, the phenomena of which result from actual blood poisoning.

In an early volume of the *Dublin Journal of Medical Science* (First Series), the late Dr. M'Dowell published cases of the disease in question, with observations on its nature and progress. The cases were under Dr. M'Dowell's care in the Richmond Hospital. The subjects of the disease, according to this distinguished surgeon and accurate observer, are invariably young persons who have been exposed to cold, and who have been under the necessity of labouring to an extent unsuited to their years. Dr. M'Dowell's experience proved that the disease may be either idiopathic or sympathetic, and that it frequently runs a rapidly fatal course; of the accuracy of which observation the case which Dr. Banks detailed afforded a striking illustration.

Dr. BANKS then exhibited to the Association a remarkable specimen of hypertrophy of the kidney. A man, aged 64, was admitted into the Hardwicke Hospital. He had been formerly addicted to intemperate habits, and latterly had been subjected to great privations. He stated that he had been only ten days ill, but his appearance indicated a more advanced stage of maculated typhus. On the fourth day after his admission, he fell into a semi-comatose condition, and the state of prostration became more marked. From the first it was necessary to employ the catheter, but little urine was secreted; it was high-coloured, and abounded in albumen. After three or four days there was a more copious secretion of urine, and a slight improvement manifested itself in the symptoms, but he soon lapsed into his former state, yet continued, with occasional and unexpected rallies, to linger until the end of the third week, when he was seized with severe and long-protracted rigors, followed by profuse sweating and coma. He died on the third day from the occurrence of the rigor. On examination of the body, all the viscera, with the exception of the kidneys, were found free from any lesion. The right kidney, which in the normal condition is generally the smaller, presented an example of enormous hypertrophy,—its weight being thirteen ounces. The capsule was strongly adherent; the cortical substance was in a state of hyperemia, but not otherwise different from that of a healthy kidney, the tubular portion dilated, and the ureter augmented in capacity, and vascular. The left kidney, or rather the remains of it, was a mere bag, containing a little thick purulent fluid: it weighed but three drachms. Dr. Banks deemed the morbid specimen worthy the attention of the Association, as affording a good exemplification of destruction of one kidney by purulent inflammation, and of the conservative power of nature in causing compensatory hypertrophy of the other.

DR. W. FRAZER exhibited some rare leguminous seeds, recently brought by Charles D. Campbell, M.D., from Creek Town, Old Calabar, Western Africa, which are termed by the natives "Eseré," and are employed by them as a mode of judicial trial by ordeal in cases of imputed or suspected crime, being popularly believed to have the marvellous property of proving fatal only to the guilty. They are stated to produce severe convulsions and speedy death unless when rapidly ejected by vomiting; and even this is said not always to afford certain protection. It is further stated, that the priests or judges can, in desirable instances, obtain acquittal, either by substituting other innocuous seeds for the Eseré, or by boiling it previous to its being used.

This is believed to be the first instance in which those seeds have reached Ireland; and through the kindness of Mr. Moore, the Curator to the Glasnevin Gardens, Dr. Frazer has succeeded in having some of the seeds raised, which it is hoped will flower this year.

To illustrate the injurious effects caused by some native leguminous plants, Dr. Frazer also detailed two instances of poisoning in children from eating the seeds of laburnum. In these cases, although only three or four seeds were eaten, they caused considerable giddiness, burning pain in the epigastrium, and vomiting; and the sufferers did not completely recover for two or three days.

DR. NELIGAN read a paper, by Dr. ALFRED TAYLOR of London, "On the Medical Evidence in the Case of W. B. Kirwan"<sup>a</sup>.

DR. MONTGOMERY read the following account of a case of imperforate hymen. "On Monday, 3rd Jan., 1853, a young woman applied to me for advice, being, as she thought and was told, in a very hopeless condition. She said that she was about twenty years of age, and being a servant of all work in a public-house, had a great deal of laborious and incessant work to perform; that she suffered great agony from a lump in her belly, and from another which pressed down into and partly through the labia externa.

"On examination, there was seen and felt a distinct tumour, apparently about four inches in diameter, and rising out of the pelvis to a height of about six inches,—easily movable laterally, firm, but giving a slight feeling of resiliency when pressed between the hands, as if it were filled with some thick fluid; no fluctuation. On passing a finger into the rectum, at a short distance it came into contact with a tumour, quite filling up the hollow of the sacrum, and so firm that it might very readily be taken for an ordinary fibrous tumour. I now turned my attention to the vagina, to ascertain how this tumour might be related to that situation; but the finger could not be introduced at all, as it at once encountered a prominent tumour, inserted all round to the ostium vaginæ; and on exposing this to the eye, the first thing that caught the attention was the open orifice of the urethra at the upper point of the tu-

<sup>a</sup> Published in the Dublin Quarterly Journal of Medical Science, vol. xv. p. 94.



mour, and thrown forwards. The distended hymen was thick and vascular in its lower half and centre, but at each side there was a whitish-looking spot, without vessels, and very thin.

“I now found that pressure on the abdominal tumour was *soon*, but not instantaneously, followed by tension of the vaginal enlargement, and also of the tumour in the hollow of the sacrum. There was now no room for any further doubt as to the nature of the case,—that it was an accumulation of menstrual secretion pent up by an imperforate hymen. The breasts were full and firm, and the mammary veins distinct.

“I think I have seldom seen a case in which one would, at first sight, be more likely to form an erroneous judgment, or, if hasty, to give a more incorrect and damaging opinion.

“Through the kindness of Dr. A. Smith, she was accommodated with a bed in one of his wards in Sir Patrick Dun’s Hospital, and with his assistance she was carefully examined. The bladder having been emptied by the catheter, she was placed on the edge of the bed, and an incision was made through the distended hymen, when immediately there flowed out a full stream of a thick fluid, in colour like chocolate, and of the consistence of thick tar. It was perfectly inodorous, and quickly showed a disposition to partial coagulation; the quantity which escaped must, I think, have amounted to a quart. Having come prepared with a curved gum-elastic catheter, immediately on making the incision through the hymen I introduced it through the opening, and in the direction of the abdominal tumour, and found that it passed at once to the depth of nine inches.

“Generally in these cases, when the fluid is let out, and the agent which had previously kept the uterus distended withdrawn, the latter organ almost immediately begins to contract, and expels the sanguineous accumulation forcibly, and often with severe pain. It was not so in this case; and about half the fluid had flowed away, under abdominal pressure, before the uterus began to contract,—this was, however, accompanied by pretty smart pain. The abdominal tumour immediately disappeared, and that in the hollow of the sacrum was no longer to be felt.

“After the operation, the patient went on most favourably, without any unpleasant symptom whatever. A week afterwards, Dr. Smith, finding the incision in the hymen disposed to contract too much, enlarged it freely, and on the 15th I could introduce my finger readily to the upper end of the vagina. The breasts had diminished in size, and the veins were much less distinct.

“The cause of the pain in these cases is the contractile efforts of the uterus to get rid of the accumulation within it; and when these contractions take place, the patient, in addition to the abdominal pain, is greatly distressed by the resulting pressure of this fluid against the hymen and vagina, giving, as this patient expressed it, the feeling ‘as if her whole inside was going to be pushed out.’

“Moreover, these contractions are sometimes partial, affecting

only certain parcels of the uterine fibres; and in this way have, in some instances, produced motions so closely resembling those of the fœtal limbs as to have been mistaken for them; and when we remember that in these cases there is met with enlargement of the abdomen, swollen breasts, and morning sickness, it is not to be wondered at that the suspicion of pregnancy has been entertained, although altogether unjustly. And thus so experienced a practitioner as Dr. Dewees tells of himself, in relating a case of accumulation of menstrual fluid distending the uterus:—‘While conducting this examination, I thought I distinctly perceived the motion of a fœtus.’—*Essays, &c.* p. 338.”

FOURTH MEETING, FEBRUARY 2ND, 1853.

DR. HENRY KENNEDY read a brief notice of two cases of diabetes;—one, an instance of diabetes insipidus; and the second, of diabetes mellitus.

“CASE I.—Mr. —, a general medical practitioner, residing at Birmingham, came under notice first in 1850. He was then forty years of age, and had been carrying on a most arduous practice in that town for thirteen years previously. When a boy of 10, and then residing in Ireland, he had been seized with a feverish attack from lying on wet grass, where he had fallen asleep. He did not recover well; and in a few weeks his parents observed he was affected with constant thirst, and that he passed much more water than natural. He was brought to Dublin (for he then lived in the county of Cavan), where the late Mr. Colles saw him, and thought so badly of his case, his general health being completely shattered, that he told his friends he need not be educated. Contrary to all expectation, he rallied, and when old enough became a medical practitioner, carrying on practice in Birmingham till he reached forty years of age, when, his means allowing of it, he came home; and then it was I first saw him. His health during all this time—that is, for thirty years—was never good, though he was able to go through the duties of his profession. His look was sallow and unhealthy; tongue furred, and mouth always clammy; pulse slow and weak; his appetite was above the average, and he had constant thirst, and always slept with a large supply of cold water at his bedside, drinking usually about four quarts in the day. Though commonly costive, he was occasionally subject to sharp attacks of diarrhœa: on two of these occasions there were signs of inflammation of the cæcum. His urine was passed several times each night; it was pale, and its specific gravity was about 1013. Dr. Head examined it minutely, but it contained neither sugar nor albumen. It is only necessary to add, that this case was cured literally within a fortnight. The medicine ordered was the dilute nitric acid, of which he took one drachm daily. He lost his life, however, several months subsequently from a gun-shot wound of the abdomen, received accidentally. It should be stated that this patient had previously used a great variety of treatment, without avail, both in this country and in England.



CASE II.—This was given in the words of the patient himself. “I first consulted Dr. — in London in 1851. He immediately forbade me sugar, vinegar, bread, cereal food, or anything containing sugar. He ordered me half-ounce doses of liquor potassæ three times a day, and which, in six weeks, caused an immense deposit of the sulphates in my urine,—its specific gravity being often as high as 1040. At this period I lost flesh at the rate of 7 lb. a fortnight, and was otherwise much reduced. I left off the medicine, found myself the better of having taken it, and shortly after became stationary in weight,—about sixteen stone. My diet at this time was very tiresome; and in August, 1851, I again saw Dr. —, to try if he would alter it. He allowed me macaroni, and a vegetable product called manna croup. I used these, and in addition ate bread very moderately, and also potatoes. When March, 1852, arrived, I found myself going back again; the urine heavier, and when tested with liquor potassæ fully as dark as the strongest coffee. I had been warned about the use of particular kinds of food, and since then have never tasted them; and my urine is now about 1022, and contains but a trace of sugar. My attention was first called to my own case by anomalous pains, which I could scarcely describe, and which were at first made light of. I had also a total loss of venereal appetite. The singular part of my case is, that I have never made an unusual quantity of urine; that it has its proper smell; and that I have not suffered from thirst or a dry skin; but the moment I eat cereal food the urine increases in specific gravity. I ought to state that the warm bath is part of the treatment, and this I use daily. A little brandy is the only good thing I take. I have never yet met any medical man who spoke of more than arresting a disease like mine: cures are said to have been performed, but there are none of a satisfactory kind.”

Such was the patient's account of his own case. Dr. Kennedy then directed attention to the special points in it: 1st. The enormous doses of the liquor potassæ; 2nd. The absence of thirst; 3rd. The small quantity of urine passed; and 4th. The active state of the skin. He also took occasion to state that there are numerous authentic cases of cure on record, and referred particularly to the seventh volume of the *Edinburgh Medical and Surgical Journal* in proof of this. He also alluded to the recent important discoveries of Bernard, who had clearly shown that sugar could be elaborated by the system itself; and hence, that the idea of cutting off the supply of articles containing sugar must in future be much modified. In conclusion, it was suggested that an entire change of climate might suit cases of this intractable disease.

DR. J. F. DUNCAN read “a brief notice of a case of moral insanity, unaccompanied by any obvious symptoms of intellectual aberration”<sup>a</sup>.

<sup>a</sup> Published in the *Journal of Psychological Medicine and Mental Pathology*, edited by Forbes Winslow, M.D. No. xxii. p. 274.

DR. FITZPATRICK detailed a case of that form of local paralysis which has received the name of "wrist drop." "Dr. Kirby," he remarked, "had lately published some observations on this disease in the Medical Press, and alluded to its rare occurrence in females, the subjects of it being generally men of dissipated habits. The following case was remarkable, as happening in a person of strictly regular habits of life.

"Mrs. —, aged 26, but apparently older, of spare form and leucophlegmatic habit, and being in the ninth month of pregnancy, went to rest, in her usual good health, on the 21st of September, 1852. She was awakened early the following morning by the cry of one of her children, and arose for the purpose of attending him, when she was surprised and shocked at finding that she had completely lost the power of using the right hand.

"I saw her in the course of the day. The hand was in a complete state of paralysis, and dropped from the wrist; the powers of extension and flexion were lost, and along the back of the hand, and up two-thirds of the fore-arm, sensation was very much impaired, so that she could barely feel pinching of the skin. She complained of feeling numbness, weight, and cold in the hand and arm, but could with some difficulty raise the limb to the head; the pulse was of the same character as in the left wrist; no evidence of cerebral disease or spinal irritation existed, and the general health was good. I directed her to take some castor oil, to bathe the hand and arm in warm water containing salt, twice a day, friction to be then carefully employed, and a flannel bandage to be adjusted. This plan was adopted for three days, and then a liniment of soap liniment and turpentine was used, and a splint was applied to support the wrist-joint. No benefit having been derived from this treatment, a blister was applied, extending over the joint and four inches up the arm.

"October 2nd. Not the slightest improvement is observable; on the contrary, more complaint is made of feelings of weight and weariness in the arm, particularly towards night. Her accouchement being daily expected, I determined to give up the use of further treatment for the present. After a natural labour she was delivered of a son on the 10th of October.

"19th. Has gone on well since delivery, but there is no improvement in the paralytic symptoms; a liniment containing croton oil was directed to be applied to the part affected.

"22nd. The liniment produced a rash, not only where applied, but in several parts of the body, and was therefore discontinued. The following mixture was ordered: Compound decoction of aloes, and infusion of valerian, of each four ounces: an ounce to be taken twice a day.

"24th. The bowels were moderately acted on by the mixture; she is now able to move slightly the tips of the fingers, but this power does not exist in the thumb; she had been obliged to lay aside the splint, as it caused pain. At the suggestion of Dr. Fle-



ming, one made of Sparks' leather, sufficient to support the wrist-joint, leaving the fingers free, was substituted. An iron, heated by boiling water, was applied at short distances along the course of the nerves, from the humerus to the fingers. She was ordered to take half a grain of valerianate of zinc three times a day, and to continue the use of the mixture in such doses as would keep the bowels in a regular state.

"31st. Has been suffering from headach since yesterday; pulse natural, tongue clean. I ordered tartar emetic ointment to be rubbed along the cervical portion of the spine until irritation was produced.

"Nov. 5th. The heated iron has been regularly employed every second day, to the extent of producing vesication in some places. While the splint is on, the patient has the power of flexion in the fingers, to the extent of half an inch, but when it is removed, the hand drops, and is as powerless as before.

"I now suggested the use of electro-magnetism, but the patient expressed a great dread of the remedy, and would not consent to its adoption.

"8th. Sir Philip Crampton met me in consultation on the case, and recommended the following liniment: Sulphuric acid, one drachm and a half; olive oil, two ounces; oil of turpentine, two ounces and a half; mix: a teaspoonful [to be rubbed for ten minutes, twice a day, on the back of the hand and fore-arm, until such irritation was caused as to prevent its further use, and then the process to be commenced on the fore-part.

"14th. She began with the liniment on the 10th inst.; a rash appeared yesterday, which is slightly painful. While the splint is on the wrist the power of flexion in the fingers is increased, and when it is removed, the hand does not drop so much as before, and the patient is sensible of a restoration of power in it.

"22nd. The powers of extension and flexion of the fingers and thumb restored. She can with ease hold the hand extended without the splint. The use of the liniment has been continued, but it produced no rash on the fore-part of the arm.

"30th. The only complaint now made is of slight weakness in the hand, for which I advised the cold douche. From this period the debility gradually lessened, and the hand was ultimately restored to its natural condition."

Dr. Fitzpatrick concluded by remarking, that it was a doubtful question what influence on the cure may have been produced by treatment previously to the use of the liniment. Certainly progressive improvement was not observed until after its application. The action of it appeared to be rather stimulant than irritant.

# PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.

THIRTEENTH SESSION.—1852-53.

*Fatty Condition of the Liver.*—Dr. Banon made the following communication to the Society:—I was requested to hold a post-mortem on the body of a gentleman who died somewhat unexpectedly on Wednesday last. I had some knowledge of this gentleman's history for a few years, and of the circumstances which preceded his death. He was for several years depending upon a rich relative, who allowed him sufficient means to commence, but not to conclude, the study of the medical profession, and from the disappointment resulting from this cause he became addicted to intemperate habits, which he retained up to the period of his death. His relative died about two years ago, leaving him an independent property, which had no other effect than to render him a more confirmed dram-drinker than ever. He now seldom consumed less than a quart of ardent spirits in the twenty-four hours, and for the last twelve months of his life had lost all appetite for food, had become irritable, and obstinately refused to diminish the quantity of whisky which he consumed daily. He had several attacks of delirium tremens, and more than one of epilepsy; he had also violent pains in the feet and ankles, and became unable to walk. About nine days previous to his death his friends observing a black spot on the ball of the great toe of the right foot, and a dark-coloured vesicle a little distance from it, requested me to visit him. I found him confined to his bed, not much emaciated, but presenting a peculiarly haggard appearance; everything he swallowed was immediately rejected from his stomach,—even the whisky, a bottle of which constantly stood by his bedside, was not retained. The heart's action was weak, but there was no abnormal sound. The lungs were healthy, and his intellect was perfect. He complained of slight tenderness over the region of the liver, and diarrhœa had recently set in. Having prescribed for him a mixture calculated to relieve the irritable state of the stomach, and given directions as to the treatment of the gangrenous spots on his foot, I left him, and did not again see him during life.

He died without the slightest struggle, those about him believing him to have fallen into a quiet sleep. I examined the body about thirty-six hours after death, along with my friend Mr. Adams. The surface was slightly jaundiced, and a considerable quantity of fatty structure was found beneath the skin of the chest and abdomen. The lungs were perfectly sound; the heart was flabby and presented also a fatty appearance. The stomach and the intestinal canal generally presented a more vascular appearance than usual. The liver was of a deep yellow colour, the size of the organ greatly



increased; its consistence, too, was much softer than in the healthy state; and on careful examination it was found to have undergone the greasy or fatty degeneration; its tissue was tinged with bile. There was no portal obstruction, and the fibrous matrix had become much attenuated, presenting a striking contrast to the appearance presented in cases of cirrhosis.—*February 26, 1853.*

*Disease of the Aortic Valves.*—Dr. Banks observed—The patient whose case I am going to detail was a young man aged 29, admitted into the Whitworth Hospital on the 22nd of last month. He stated that his habits of life were regular, and that he never had any rheumatic affection. Early in last December, after straining himself in lifting a heavy weight, he experienced pain behind the sternum, and thenceforward frequently found his breathing short on any slight exertion. He remained at work until the beginning of last month, suffering from frequent and severe fits of difficulty of breathing and pain, which gradually became more and more intense. Sixteen nights before his admission he became quite unable to lie down, and any attempt to do so brought on the pain and dyspnœa. His appearance was anemic, his face puffed and pallid, his eyes prominent, the conjunctiva glistening and pearly, and there was slight œdema about the ankles. On percussing the chest, I found the area of dulness greatly increased, and the apex of the heart placed considerably to the left of its normal position, and lower down than natural. With the exception of a crepitus in the base of the lung, the respiratory murmur was healthy. A loud bellows murmur, propagated along the aorta, was heard at the base of the heart; at the top of the sternum it resembled the *bruit de scie* or *bruit de râpe*, and was much rougher than ordinary in cases of insufficiency of the aortic valves. At the apex of the heart there was a loud but small bellows sound, and at the top of the sternum a slight amount of dulness. He never had hemoptysis, but had suffered from dysphagia before his admission.

He continued without much change up to the 3rd of this month, about ten o'clock in the evening of which he was seized with great difficulty of breathing, and a feeling of suffocation, with severe pain in the chest; on a former occasion it resembled angina pectoris, the pain in the sternum shooting through the chest and sometimes into the left shoulder. He continued in this state, bordering on suffocation, for nearly an hour, when he expired. During this period he emitted a large quantity of bloody froth from the mouth. On examining the body, we found the heart very much enlarged; there was considerable hypertrophy, with dilatation of the left ventricle. A circle of bony matter was deposited round the origin of the aorta, and the aorta itself was dilated, and on pouring water into it the valves were found incapable of preventing regurgitation. They were thickened, and in one of them a hard fibrous mass of large size was deposited.—*March 5, 1853.*

*Protrusion of the Omentum.*—Mr. Adams said—I beg leave to

lay before the meeting the details of a very remarkable case of protrusion of the omentum from the cavity of the abdomen.

The protrusion in this instance did not occur in any of the ordinary situations for hernia, but the omentum, uncovered by any sac, was seen (when the patient was admitted into the Richmond Hospital) to have descended from the orifice of the anus between the limbs, so far as nearly to reach the popliteal spaces. The history of the case is as follows :

Jane Rice, aged 50, was admitted into the Richmond Hospital, under my care, at one o'clock on the morning of the 22nd of October, 1852. The case was reported to be of that urgent nature as to require my attendance at the hospital at night. I found the woman lying on her side, and when the bedclothes were raised up and the nates exposed, a mass of the omentum, about eighteen inches in length and two inches and a half in breadth, presented itself; it had a shining, membranous surface, and was of a pinkish colour. Dr. Sinclair, Assistant Physician of the Lying-in Hospital, accompanied the patient to the Richmond Hospital, and was kind enough to give me a history of the case. He stated that the woman had first been transmitted, by mistake, to the Lying-in Hospital; that he there made a special examination of the patient. He said that the finger, introduced per vaginam, reached the os uteri, which was found natural; the anterior wall of the vagina was perfect, as well as the posterior wall and recto-vaginal septum. At the orifice, however, of the vagina, there was a well-marked cicatrix, the result of laceration, which had occurred at her first confinement, about thirty years ago. Dr. Sinclair further stated, that he satisfied himself that the protruded omentum had no connexion whatever with the canal of the vagina, but that it plainly proceeded from the cavity of the rectum, and passed out through the anal orifice. That on introducing the finger alongside of the protruded omentum, into the rectum, it was found that above the anus the omentum became narrower, rather pediculated, and just as high as the finger could reach, the pediculated portion could be traced to have come through an opening in the walls of the rectum, situated towards the left and posterior aspect of the gut. The edge of this aperture was abrupt, well defined, and of a semicircular form. Dr. Sinclair considered it to be a portion of altered omentum protruded through an opening, which was situated (so far as the finger could discover) to the left side of the rectum, and slightly posteriorly. He imagined that if the finger could be introduced a little higher, the opening in the rectum should be found to correspond to the lowest portion of the recto-vaginal *cul de sac* of the peritoneum.

As to the origin of this protrusion, it was supposed by the woman herself to be the consequence of her first confinement. At this time a laceration had occurred at the orifice of the vagina. Ever since this period she had been suffering some inconvenience, caused by something which occasionally protruded, as it were "her body coming down;" but that this was merely an inconvenience,



and there was nothing in it whatever to alarm her, until the evening of the day of her application to the hospital. On this evening, when she was going quickly down stairs, her foot slipped, and she made a violent effort to recover her balance, and then it was that this matter, which ordinarily came down but a little, suddenly descended to a great amount, upon which she became faint, vomited, and was immediately seized with great pain, and under these circumstances was, under an erroneous view of her case, transmitted first to the Lying-in Hospital, and subsequently to the Richmond by Dr. Sinclair. The patient stated that the structure now down felt exactly similar to that which ordinarily protruded for many years, and differed only in the circumstance of the great extent of the protrusion.

On reflecting on the representations of the case made by Dr. Sinclair, and finding that she had no urgent symptoms just then, I merely directed that fomentations and leeches should be applied to the abdomen, which was done accordingly.

On the following morning, Wednesday, 22nd of October, a consultation of the surgeons of the hospital was held on the case, the result of which was, that it was deemed imprudent to interfere surgically with it. There was now no sickness of the stomach, and the inflamed action of the peritoneum and intestines was trifling. We felt convinced, indeed, that the omentum was in a state of strangulation; at the same time we felt, that if the structure were divided we should not then be without fears that there might be a difficulty experienced in replacing the protruded part; or, supposing this last effected, we foresaw that it was by no means impossible that some of the intestines might force their way out through the aperture; or if, supposing the operation performed, and that none of these circumstances occurred, still an opening should remain through which the air would penetrate, and be followed by the passage of the ordinary contents of the rectum into the cavity of the peritoneum, which, it is needless to say, must be necessarily fatal.

It was considered, therefore, more prudent to leave the case to nature and to palliative measures, than to have recourse to any surgical operation.

We considered it probable that the ligature (placed as it were by nature) on the omentum, at the very point of its protrusion from the peritoneal cavity, would effectually strangulate and cause the death of the omentum, and thus would the patient be rid of the protruded part, the vitality of which we believed had already suffered much from exposure for many hours.

The patient lay in bed on her side, and the protruded part was smeared with the linimentum calcis compositum; it was directed that leeches should be applied to the epigastric region should acute abdominal pains be complained of.

From day to day the patient appeared to suffer less uneasiness; she lay upon her side, and the protruded part gradually withered, and on the seventh day sloughed off. The finger introduced into

the rectum discovered that this intestine was now empty. The edges of the ring through which the omentum had protruded could now be felt as before; but the foramen, as far as could be discovered by the touch, seemed stopped up.

All her uneasiness had disappeared, and did not return so long as she remained in bed; but she still found, on getting up and walking about, the same tendency to protrusion, or, as it were, "her body coming down," existed as before, and she feels instinctively the necessity of being very cautious in all her movements.

It is now six weeks since the occurrence of the rectal protrusion for which she was admitted into the Richmond Hospital; she was yesterday discharged, as she felt anxious to return to her home; she declared that she felt herself quite as well as she has done for the last twenty years.

*Observations.*—In endeavouring to account for the protrusion, we must conclude that a perforation through all the tunics of the anterior and left wall of the rectum, at a point about four inches above the opening of the anus, and in the immediate vicinity of the recto-vaginal *cul de sac* of the peritoneum, must have occurred; and by this opening the cavity of the rectum, and that of the sac of the peritoneum, were put in direct communication with each other.

The engagement of the lower extremity of the omentum into this opening of communication must be looked upon as a happy interposition, thus closing up the aperture and preventing fatal consequences; but the question arises, how did the perforation of the rectum, and direct communication between the cavity of the intestines and that of the peritoneal cavity, occur? In the preceding history of the case, the circumstance of the woman's having suffered much in her first confinement is much dwelt upon, but what has been the mechanism? It is not proved that this severe labour had anything to do with what subsequently occurred, namely, the protrusion of the omentum. It is very true that the external orifice of the vagina had been ruptured, and that the laceration extended through a portion of the peritoneum towards the anus during the labour referred to; but there was no evidence that the upper part of the vagina, near the recto-vaginal *cul de sac* of the peritoneum, had ever suffered injury during labour; indeed, if it had, a protrusion into the cavity of the vagina should have occurred, instead of that observed in this case.

Happily, we have not had any means of ascertaining anatomically the precise nature of the lesion which existed in the coats of the rectum, nor do we know whether the ulceration we presume to have occurred had originated in the serous or mucous coat of the intestine. The situation of the perforation we know to be about four inches above its anal opening, and we can infer that the perforation into the cavity of the peritoneum through which the omentum passed must correspond exactly to the lowest point of the recto-vaginal *cul de sac* of this membrane.



The case appears to me to be a novel one, and well worthy of being recorded.

The two drawings, and the portion of sloughed omentum, have been preserved in the collection of the Richmond Hospital Museum.  
—*March 12, 1853.*

*Pneumonia.*—Dr. Banks observed, that the patient from whom the specimens were taken was a man, aged 64, a labourer, admitted into Sir Patrick Dun's Hospital on the 2nd of this month. On the Sunday previous he suffered from headach, shivering, and sickness of stomach; and on admission complained of great prostration of strength. He had no cough or pain in the chest, but on observing that a crop of herpes existed about his mouth, and knowing its frequent co-existence with pneumonia, especially when the latter is present as an epidemic, my attention was attracted to the chest, and I found the base of the right lung dull on percussion, with crepitus. He was suffering from great debility, and his pulse was 120. On the second day after his admission, the whole of the right lung had become dull on percussion; bronchial respiration and bronchophony existed; the pulse was 120, and much weaker, and the respiration was 40. On examining the lungs, there was a remarkable tympanitic resonance over the whole of the antero-superior portion of the right lung. The following day crepitus was heard over the situation where this remarkable phenomenon had existed; the tympanitic sound was best heard by a light, smart percussion. The physical signs continued to the fourth evening after his admission, up to which time he gradually sank, and died on the following morning. On opening the chest, I found that the right lung had been the seat of universal solidification; it occupied a very great extent of the chest; it crossed the mesian line, covered the heart, and overlapped a portion of the opposite lung; it was solid from its apex to its base, with the exception of the lower edge of the inferior lobe, which was emphysematous. There was no purulent infiltration; the left lung was healthy; in the heart fibrinous clots were found in both ventricles, extending into the pulmonary artery and into the aorta.

Dr. Stokes informs us that he saw one case of typhoid pneumonia in which tympanitic resonance occurred at the apex of the left lung, and continued for some days; and he alludes to another, in which it was supposed to have existed at the base of the lung. In the latter, however, the resonance was due to a solidified lung lying over a stomach distended with air. In the former it was owing to the existence of a large cavity. Dr. Graves first called attention to the occurrence of tympanitic resonance in pneumonia. I cannot account for its existence in the present case; it was not so remarkable shortly before death as it had previously been.—*March 19, 1853.*

*Disease of the Aortic Valves.*—Dr. Banks also brought forward the case of a woman, aged 40, who was admitted on the 7th of last month

into Sir Patrick Dun's Hospital. She was a servant, and had continued at work up to last Christmas, when, for the first time, she suffered from shortness of breathing and palpitation of her heart on making any slight exertion. About the same time also she observed some swelling about her ankles; she had never suffered from rheumatism. At the time of her admission, her general symptoms were, great dyspnœa and inability to remain in a recumbent posture; œdema of the lower extremities, and visible pulsation of the superficial arteries; that of the radial artery could be seen at some distance. On examining the heart, a double *bruit* was heard both at base and apex of the organ, but much louder at the base, exceedingly rough in its character, and not unlike the friction sound heard in pericarditis, but it was distinctly endocardial, and partook somewhat of the character of the *bruit de scie*; it extended along the aorta, rough, but not musical. The area of cardiac dulness was greatly increased; and at the base of the lung a coarse crepitus was audible. The orthopnœa, for the difficulty of breathing amounted to this, was paroxysmal. She was frequently relieved by ether, and more especially by chloric ether. She died on last evening, and on examination the heart was found greatly increased in size, and its cavities dilated. The aortic opening was permanently patent, and a large irregular vegetation was connected with the posterior valve. The mitral valves, also, were thickened, and allowed of regurgitation in a slight degree.—*March 19, 1853.*

*Suppurative Inflammation of the Liver; Ulceration of the Intestines.*—Dr. M'Dowel exhibited the recent specimens, and gave the following account of the case:—

The patient, who was a female, and of middle age, was admitted into the Whitworth Hospital April 7, 1853. She had been visited a short time previously by Dr. O'Flaherty, who recognised the existence of an hepatic abscess, and advised her removal to hospital. When she was brought to the hospital she was greatly exhausted; her expression was indicative of much and of long-continued suffering. She was in a state bordering on collapse, with cold extremities, and a failing pulse. She complained of intense pain in the left side catching her breath. She was too much exhausted for any very accurate examination, but a large elastic tumour, of a globular form, was very manifest in the right hypochondrium, projecting beneath the costal cartilages of the right side. She had laboured under obstinate diarrhœa for a considerable time, and was greatly emaciated. The diarrhœa continued after her admission, and the discharges were passed involuntarily. Stimulants and opium were prescribed, but she died sixteen hours afterwards.

*Post-mortem Examination.*—The right lobe of the liver was hollowed out by an immense irregular cavern, containing pus and sloughy cellular tissue. Of the former at least three pints escaped when the cavity was cut into. A portion of this abscess constituted the globular tumour felt in the right hypochondrium, and in which



fluctuation was perceived during life. A very thin layer of hepatic structure bounded the abscess here; but although its coverings were so very thin in this direction, and the abscess so accessible by external incision, yet no adhesion of the peritoneum had taken place.

The puncture of the tumour from without would, consequently, have led to the effusion of its contents into the serous cavity of the abdomen. More superiorly adhesions had formed where the diaphragm and the liver are in close proximity. The left lobe was perfectly healthy. There was recent pleuritis on the left side. The spleen was in a normal state. In some cases inflammatory lesions of the spleen have produced secondary abscess of the liver.

Being aware that, in these countries at least, abscess of the liver, as a primary disease, is not very frequently met with; and availing ourselves of Dr. Budd's researches on the connexion between hepatic abscess and lesions of the intestinal mucous membrane, we instituted a careful examination of the whole gastro-enteric mucous surface. The result was, that numerous ulcers, of a circular form, with elevated edges, were discovered in the cæcum, and in the first portions of the colon. The surfaces of the ileo-cæcal valve were ulcerated. From the appearance of the lower end of the ileum, externally, we were led to infer that ulcers would also be found in its interior; for several coils of this intestine were united together by bands of lymph, whilst their outer surface appeared preternaturally vascular. Accordingly, on laying open this intestine, an ulcer was found which had penetrated the mucous and muscular coats as far as the serous membrane, where perforation was prevented by adhesive inflammation being established. Dr. M'Dowel observed, that in this case suppuration in the liver was secondary to disease of the glandulæ solitariae of the intestinal mucous membrane. The explanation of its occurrence under such circumstances is not difficult:—the morbid matters, generated by the diseased condition of the mucous membrane, being absorbed by the radicles of the portal veins, and so carried to the liver, by which an inflammation of a diffuse or suppurative character is set up. In a large proportion of the cases referred to by Dr. Budd, abscess of the liver was thus supposed to depend on ulceration of the intestines.—*April 2, 1853.*

*Apoplexy ; Hypertrophy of the left Cavities of the Heart.*—Dr. M'Dowel detailed the following case, and exhibited the recent specimens:

A man about fifty years of age, and of robust appearance, was suddenly attacked with apoplexy on the previous day (April 1st). He had come in from Rathmines to his office, and whilst attending to some business he suddenly fell down and became immediately insensible. He was removed to the Whitworth Hospital soon afterwards.

On admission, the symptoms were like those observed in cases of poisoning by opium; the face was pale and not distorted; the

eyelids closed, the pupils much contracted and insensible to light; the left eye appeared rather more prominent than the right; pulse 72, and compressible; the bladder was distended with urine, which was drawn off by a catheter. There was complete coma, and the surface was colder than natural. Stimulants were administered both by the rectum and the mouth, and counter-irritation sedulously employed. Twenty minutes afterwards the pupils were observed to be slowly dilating, and then convulsions quickly supervened; the pulse now became very slow and small. Death occurred five hours after the first seizure.

*Post-mortem Examination.*—The surface of the brain appeared congested, and its cavities were distended with a great quantity of blood, partly fluid and partly coagulated. A large rent existed in the side of the right optic thalamus, where it forms the lateral boundary of the third ventricle, and it appeared that hemorrhage had first occurred into the optic thalamus; that the blood subsequently escaped by rupture into the third ventricle, and from thence flowed into the lateral and fourth ventricles. The rush of blood had broken through the fornix and velum interpositum. The clot formed a complete mould of the third and fourth ventricles and of the aqueduct of Silvius. The blood in the left ventricle was nearly fluid.

The arteries at the base of the brain were in a diseased condition; spots of atheroma were visible in the basilar artery and in its principal branches.

The heart was extremely large and heavy. A great disproportion existed between its two sides. The right cavities, which were natural as to size, seemed but appendages to those of the left side, so great was the hypertrophy of the left ventricle. All the valves were healthy. The lungs were free from disease, as was also the liver, but the kidneys were enlarged, softer than natural, and pale.

Dr. M'Dowel observed, that every case which illustrated the connexion between cardiac and cerebral disease was of much interest. Some pathologists still doubt the influence of hypertrophy in producing cerebral hemorrhage (Walshe), but the case which he had just detailed supported the opposite opinion.

In it is to be recognised a disproportion between the propelling power of the heart and the power of resistance of the blood-vessels, resulting in a rupture of some of the cerebral arteries. As contrasted with this case, he would allude to those instances (which are of more frequent occurrence, and of which several have been presented to the Pathological Society), in which the brain suffers injury from an interruption to its due supply of arterial blood; as for example, in certain cases of mitral regurgitation. But in such cases the morbid changes in the brain are of a different nature, and essentially consist in a softening of the cerebral substance, to which the hemorrhage is often consecutive. Dr. Law's researches on this subject were most valuable.—*April 2, 1853.*



*Cancerous Tumour in the Posterior Mediastinum.*—Dr. M'Dowel exhibited a specimen obtained from the body of a man of middle age, who had been admitted on the previous Tuesday, under his care, into the Whitworth Hospital. He was then labouring under intense dyspnoea; his lips were livid, and his countenance ghastly and sunken; he had frequent cough, with pain in the left side, and copious frothy expectoration; the chest was slightly dull over the part where pain was complained of, but resonant elsewhere; sibilant and loose crepitant râles were heard all over both lungs; treatment afforded but temporary relief, and he died three days after his admission into the hospital.

*Autopsy.*—The lungs were distended with air; there was no pneumonic consolidation, and every portion floated lightly in water. On cutting into the lungs, they were found gorged with bloody serum; there was also much pulmonary congestion, which, like the serous infiltration, existed almost equally in every portion of both lungs: it was not, therefore, hypostatic. The bronchial tubes were filled with thin, frothy mucus, and a cancerous mass, engaging the bronchial glands, surrounded the bifurcation of the trachea, and involved the walls of that tube, which were in part blended with the tumour. The caliber of the bronchi at their origins was sensibly diminished.

There was hypertrophy of the heart, with dilatation and traces of antecedent pericarditis. The specimen illustrated the case of pericarditis without adhesion; for though a distinct layer of false membrane, capable of being raised from the subjacent serous structure, was spread uniformly over both auricles, yet no adhesion had taken place. There was recent pleuritis on the right side. There was "Bright's disease" of the kidney (with which he associated the morbid condition of the heart and pericardium) and cancerous infiltration of the submucous tissue at the pylorus, producing incipient stricture of that orifice. The mucous membrane of the stomach presented evidences of the most intense inflammation. It was of a bright red colour and villous appearance, whilst flakes of lymph were spread in large patches over a considerable portion of its surface. These changes were most conspicuous in the left extremity of the organ; and, what is very remarkable, they had been unaccompanied by any of the usual signs of gastritis.

In his observations on this case, Dr. M'Dowel said:—I believe that the changes in the lungs, which were the immediate cause of death, depended on the mechanical obstruction in the bronchi. It is one of the great doctrines of modern physiology, that the movement of the blood in the capillaries is not dependent on the *vis a tergo* of the heart, but is maintained by a force generated by the capillary circulation itself. This force in the systemic capillaries is dependent on the affinity between the blood and the different tissues,—each tissue attracting to itself the particular element in the blood needed for its due nutrition. In the lungs, this attraction is represented by the affinity which the venous blood has for oxygen introduced by respiration. The venous blood and the air in the

pulmonary cells have a mutual attraction, which is satisfied by the exchange of oxygen and carbonic acid which takes place through the walls of the capillaries; and when the blood has become arterIALIZED, it no longer has any attraction for the air: therefore, venous blood will drive the arterial before it in the pulmonary capillaries while respiration is properly going on; but if the supply of oxygen be interrupted, so that the blood is no longer aërated, an interruption of the movement of the blood through the pulmonary capillaries is the result,—the pulmonary circulation becomes retarded, and congestion and serous effusion will be the results.

Dr. M'Dowel said, that in the present case the due supply of oxygen was interrupted by the mechanical pressure exercised by a cancerous tumour in the trachea; and in corroboration of the views then advanced he referred to the fact already mentioned, that every portion of both lungs seemed to be equally affected. Changes similar to those now described are met with in cases where aneurismal tumours compress one of the bronchi or the trachea. In such, the physical conditions are manifestly the same as in the preceding case.—April 9, 1853.

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## PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.

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SESSION 1852-53.

FOURTH MEETING, THURSDAY, 24TH FEBRUARY, 1853.

DR. CARTE exhibited to the Society an interesting preparation of the female generative organs in a pregnant state, taken from the body of the *Halichærus griseus*.

He dwelt at some length upon the natural history of the phocidæ, or seals, and stated that Cuvier assigned to them the third order of the class Mammalia, named by him *Carnassiers*, and which he has subdivided into three great sub-orders, viz.—1. Cheiroptera: bats; 2. Insectivora: hedgehog, shrew, mole, &c.; and 3. Carnivora: bears, &c.; this last family being further divided into three sub-families, viz.—1. The Plantigrade; 2. The Digitigrade; and 3. The Amphibiæ; and that, in this classification, the seals were placed at the head of the last sub-family, the Amphibiæ, but of course inferior to the terrestrial Carnivora. He enumerated the various materials for the study of the anatomist and physiologist furnished by this interesting and useful animal: such as the great venous sinuses, first described by Houston; the peculiar arrangement of the sclerotic coat of the eye, as described by Blumenbach, in the Greenland or Harp variety, and which served as the basis of his theory to account for the adaptation of the eye, as an optical instrument, to different



media and distances; the valve in the fauces; the great extent of the olfactory mucous membrane; the distribution and size of the nerves supplying the lips, &c.; and then read the following account of the female generative organs:—

“On examining the external parts of generation, the vulva, or urethro-sexual opening, is found to be very capacious, in close proximity, but anterior to the anus, one muscle encircling both outlets, and forming a common sphincter; deeper seated, the vagina and rectum are merely separated by some loose cellular tissue and fat. Immediately within the verge of the urethro-sexual opening, and on its anterior wall, the clitoris lies in a small semilunar depression (preputium clitoridis); this organ, like its analogue, the penis of the male, is capable of erection during sexual excitement. In shape, the clitoris resembles a diminutive tongue; it is denticulated on its free edge (the glans), but in this instance is destitute of the bony support which exists in the penis of the male. This is another exception to the rule, viz.—‘When the intromittent organ of the male is provided with a bony support, the rudiment of one is generally found in the clitoris of the female: thus, for instance, it exists in both sexes in the bear, the cat, and the otter; still, though present in the penis of the dog and civet, it is not found in the bitch nor in the female civet. In the lioness, racoon, and marmot, the clitoris contains a bone like that belonging to the penis of the males of the same species; and amongst the Monotremata and Marsupialia, the clitoris, like the penis, is surmounted with a bifid glans. In the *Loris gracilis*, or *Stenops tardigradus*, the clitoris is of a very large size, and the urethra—as first pointed out by Daubenton—runs forward and opens at its anterior extremity between the branches of its glans, imitating in this point of structure the penis of the male.’

“In this particular, then, the seal appears to resemble the dog; and another proof of this similarity may be drawn from the fact that the penis of the male seal is furnished with the muscoli compressores venæ dorsalis, like the dog; which muscles, long and thick, meet in a tendon over the dorsal vein, where the vessel runs under the arch of the pubis.

“In the marsupial animals the clitoris lies in a preputial recess, and is simple in those whose males have a simple glans penis, but bifid in those whose males possess a bifid glans, as in the opossum.

“Proceeding from the clitoris, a median *raphè* extends a short distance along the urethro-sexual canal, having two small eminences separated by a shallow groove or furrow: these eminences appear to be the rudiments of the labiæ minores or nymphæ; in other respects, the mucous membrane of this canal is smooth, except at its verge, where it is thrown into circular folds by the action of the sphincter muscle. At its upper extremity there is a well-defined, constricted circle of fimbriated mucous membrane, which is particularly prominent on the anterior wall, where it forms a soft, fleshy eminence. This arrangement, on superficial view, might be mis-

taken for the os tincæ. On the right side of this protuberance the urethra opens by a slit-like orifice, which leads to a pyriform bladder by a straight urethra of about three and a half inches in length, situated in the median line of the anterior wall of the vagina.

“From the apex of the bladder the urachus is continued towards the umbilicus; and its peritoneal reflections, or false ligaments, extend on each side as far as the round ligaments of the uterus. The mucous membrane of the *vagina proper*, though smooth on its surface, nevertheless is disposed in longitudinal plicæ; and this part of the canal may be said to commence at the fleshy eminence described above, on which is situated the orifice of the urethra. In the young or immature female, this circular constriction separates the urethro-sexual canal from the true vagina, which in the adult is broken by numerous fissures into prominent folds, resembling corpora myrtiformes; and this is the analogue of the hymen. The os uteri terminates the vagina proper: its lips project considerably into this canal, the posterior one being much the larger of the two.

“The body of the uterus is seen to extend for about three inches, and then it divides into two cornua, which pass off towards each iliac region: these cornua are united for some distance in the median line before they open into the corpus uteri, and consequently appear to give a greater length to the body of the uterus, when viewed externally, than really exists internally. On examining the uterine cavity, that of the right or impregnated cornu is found of an ovoid form, of considerable size as compared with the left, its walls thinned by distention, and its mucous surface completely devoid of longitudinal rugæ, so well marked in the left or unimpregnated horn.

“Each cornu is terminated by the ovary of its own side, and is enclosed in a duplicature of the peritoneum, somewhat similar to the disposition of the same organ in some of the Ruminantia, as, for instance, the camel. These capsules strongly resemble the tunica vaginalis testis of the male. At the upper and posterior aspect of the ovarian capsule there is a large, round opening, at the superior segment of which circular opening the fimbriated extremity of the Fallopian tube commences: it is above and behind the ovary, in close relation to it, but in no way joined to this organ by its duct, except during the act of impregnation, when it grasps the ovary, and permits the passage of the ovum along its canal to the uterus; whereas in Marsupials (as the kangaroo) the ovaries are lodged within the expanded orifice of the oviduct, called the pavillion, and in the wombat, according to Owen, it is enclosed with the pavillion in a peritoneal capsule.

“To facilitate the passage of the ovum in the present instance, the orifice of the Fallopian tube is situated in the centre of the fimbriæ; its trumpet-shaped extremity rather suddenly contracts to a very fine canal, which runs in a diagonal direction from the upper and outer border of each peritoneal capsule to its lower and inner part, and in this course each Fallopian tube lies between the layers



of the peritoneal capsules in front of the ovaries, and terminates by an exceedingly small orifice near the apex of each cornu. The ovaries are somewhat reniform, and about the size of small walnuts; a section of the impregnated one discloses a well-marked corpus luteum.

“From the upper and posterior part of each capsule, a long, flat band extends as far as the diaphragm, to which it is connected merely by the peritoneum. These bands consist of a peculiar semi-elastic tissue, intermingled with non-striated fibres, and differing in both these respects from voluntary muscular fibre. They are inserted into the ribs, nearly at right angles to the fibres of the diaphragm. I conceive the use of these bands to be, in the first place, to support the uterus, for it appears, as it were, slung between them like a hammock; and secondly, when we consider the relative position they bear to the round ligaments—being external and opposed to *them*—we find that the whole uterus is placed in the centre of four forces, two acting from the ribs, and two from the pubis; by this means the uterus is kept in a quiescent state: and as these bands have in their composition more or less elastic tissue, when the uterus ascends, they are enabled to contract, and when it descends, to elongate; and this apparatus is absolutely necessary when we consider the peculiar habits of the seal, at one time in water, at another basking on the rocks: in the former element its motions are easy and natural, but on land it is ludicrously awkward, where it progresses by means of a kind of shambling gait or short saltations; and under such circumstances, if the uterus were only supported in the ordinary way, it would be liable to violent shocks, to the detriment of its contained foetus.”

DR. TOLER reported the case of a woman to whom he had been called some time since, in consequence of alarming symptoms having arisen during a tedious labour (her second). On his arrival, he found that rupture of the uterus had taken place. Version was performed, and the head with some difficulty brought through the brim, depending on contraction of its conjugate diameter. Under the treatment pursued this woman recovered. Her first labour had been tedious: the child now two years' old. Ten months having elapsed since she had been under Dr. Toler's care, she called to inform him that she was four months pregnant, and asked his advice. She was recommended to go to the Dublin Lying-in Hospital, and submit to the operation of induction of premature labour at the seventh month, but her clergyman would not allow her to consent to this, and she determined to abide her full time. Fortunately for her, labour came on without external intervention at the seventh month, and she was safely and naturally delivered of a dead child. A year subsequent to this she again presented herself, and informed Dr. Toler that she was six months gone with child, when he repeated the advice he gave to her on the former occasion; but a veto similar to the last was put against induction at the seventh month, and no more was

heard of her until she was in labour at the full term, when her husband came for Dr. Toler, but he declined the attendance, inasmuch as his advice had not been followed. The result of this, her fourth labour, was rupture of the uterus, which terminated fatally.

DR. ATTHILL (Assistant to the Rotundo Hospital) detailed the particulars of two cases which had recently occurred in the Rotundo Hospital. The first was that of a woman who, having been delivered of a child at three o'clock in the afternoon, was brought into hospital at eleven o'clock on the same night with a second child in utero. On examination, he found both hands protruding from the vulva; and on following up the right arm, which was the most anterior, the *edge* of its scapula was felt over the right sacro-iliac synchondrosis. The back proved to be right across the brim, in the oblique diameter; the breech occupying a situation above the left acetabulum, and the other shoulder to the left of the promontory of the sacrum.

The uterus was firmly compressed round the child, but the relaxed state of the parts from the prior delivery, and the absence of strong pains, determined him to have recourse to turning, which was accomplished without much difficulty, the patient being placed under the influence of chloroform. The child, on delivery, gasped once or twice, but all efforts failed to establish respiration fully.

Dr. Atthill did not believe the presentation in this case to have been originally as he found it, and he tried to prove at some length, from the peculiar position of the fœtus at the brim, that it was caused by ill-directed efforts of the nurse (under whose care the patient was prior to admission into hospital) at turning, who, finding an arm or elbow presenting, brought down the other arm instead of the lower extremity. Of this, however, he had no positive proof, inasmuch as he could gain no information whatever from the patient concerning her labour anterior to her reception, she having evidently abstained from affording the same, in order to shield the nurse. This patient recovered without a bad symptom.

The second case was one of dropsy of the amnion, in a woman aged 33.

On admission, her appearance immediately attracted attention, the abdomen being enormously distended, and found to be excessively tense, with distinct fluctuation all over it, so that no outline of the uterus could be traced.

By vaginal examination the membranes were felt through the os, which was dilated to the size of a penny-piece; they were extremely tense, and this tenseness was not rendered more so by the uterine action; the os itself was rigid.

The membranes in this case gave way suddenly, and an enormous quantity of liquor amnii was discharged; the bed was saturated, and the floor flooded therewith. Immediately after this the abdominal parietes were found quite flaccid, the uterus firmly contracted, and so small, it seemed almost impossible that a fœtus was contained



therein. Vaginal examination set this at rest, for a small, irregular mass could be felt at the brim, which was diagnosed to be a malformed head, and in a few minutes the diagnosis was verified by the birth of an acephaloid monster.

The placenta proved to be morbidly adherent, and it was found necessary to introduce the hand to remove it. The patient went on well, and was discharged on the ninth day.

Dr. Atthill called attention to the great degree of distention which the uterus underwent, without suffering actual injury or impairment of its contractile power when once relieved of the distending fluid; and proceeded at some length to show how efficient a cause of delay in the first stage of labour over-distention was: concluding by remarking that this case confirmed the statement of Ramsbotham, viz., "That an acephalous fœtus and an adherent placenta were occasionally found in connexion with an inordinate secretion of liquor amnii."

#### FIFTH MEETING, THURSDAY, 31ST OF MARCH, 1853.

DR. HARDY read the following paper on the paralytic affections of the extremities of infants and children. "Until a few years ago these affections met with but slight attention from writers on the diseases of early life. That such complaints are worthy of our most attentive consideration will, I trust, appear from the cases I am about to lay before the Society.

"CASE I.—*Congenital Paralysis combined with Idiocy.*—B. G., a male infant, of strumous parents, born 25th Nov., 1847, large, and apparently healthy. During infancy he had but little activity of body; his countenance was dull and heavy; the limbs were moved without energy; and his head was permitted to roll about more than is usual with young infants. He took but slight notice of his nurse or mother, though he was evidently familiar with the voices of his attendants, but could not keep his eyes on any one of them for the shortest space of time, rolling them constantly about, or looking upwards or directly downwards in a vacant manner. As he advanced in age the motions of his right hand and arm were performed awkwardly; he could not grasp properly, and always turned his thumb into the hollow of his hand; when placed with his feet on the ground he made no attempt to walk, but allowed his legs to remain nearly motionless; from the loins upwards he moved freely and rapidly, bending and straightening himself. He was possessed with a great appetite, and the development of his body seemed to keep pace with it for the first two years of his life. Except crying, no other noise escaped from him save a peculiar hoarse and whining sound, which he gave vent to when either pleased or displeased. Dancing him up and down in the air gave him a good deal of pleasure, and caused him to express himself pleased by means of that peculiar sound just mentioned. He had frequent convulsive jerks of the head forwards and downwards, which seemed to distress him

much for a few seconds, and these spasmodic jerks were sometimes repeated, the second coming on immediately after the first; owing to the spasms he could not be allowed to lie on the ground (he was not able to sit up), as he might dash his face against anything near to him. He frequently passed water without giving notice, but his nurse understood him so well, that the actions of the bowels were performed regularly and naturally. The lower limbs first showed signs of wasting, being so little used, and besides, they seemed more affected with paralysis than the arms; but during his third year, the last of his life, his lower limbs wasted greatly, and this was the more apparent inasmuch as he was then growing tall. His tongue was nearly always turning about outside his mouth while he chewed it, allowing the saliva to flow down. I attended this child during several attacks of illness, and during the greater part of his life I had constant opportunities of watching the progress of his malady. His parents were most anxious for his improvement, and consulted many medical men, hoping for something, as they said, 'to make him bright.' They procured for him the apparatus termed a 'baby jumper,' in which he seemed to enjoy himself a good deal. Nothing was omitted which afforded the least hope of improving his functions so far as the paralytic affections and mental development were concerned, but all to no purpose; and in his last year of life so much did his countenance and general appearance bear the index of his disease that his father and many of his relatives were convinced improvement was out of the question. Hooping-cough was deemed the most likely infantile disease to terminate this child's existence should he escape ordinary affections; and in the autumn of 1850, having been seized with that complaint, he expired during a fit of coughing.

"On post-mortem examination several ounces of serous effusion were discovered in the ventricles, with extensive growths of tubercle in the membranes and substance of the brain, whilst the brain itself was small.

"There are several remarkable circumstances connected with the history of this child. He was the second of his parents, the first having been a very delicate female, remarkable for quickness and intelligence, but after some months of ill health she died of hydrocephalus. The head in her case was examined and found to contain a large quantity of fluid, whilst tubercles were observed in the cerebral membrane, and the cerebrum was rather larger than was natural in a child three years old. These two children were wet-nursed by their mother, who, in consequence of a very delicate constitution, performed the task but badly. The third child was wet-nursed by a strong, healthy woman, and though born a puny infant, he grew up a tolerably robust boy; the fourth has also grown up strong and healthy. The four children lived nearly altogether in the country, a few miles from Dublin, and were similarly circumstanced in every respect, with the exception of the first



two having been suckled by their mother, whilst the third and fourth had the benefit of a sound wet-nurse.

“CASE II.—T. F., a fine lively male child, the fourth of his parents, born the 1st of June, 1852, strong and healthy. Three months after birth his lower limbs were observed gradually to lose their power of motion, although until then they had been perfectly strong and free in their movements, and the child's health was good. No treatment was adopted for a month after the first symptoms exhibited themselves, and then he was brought to the Institution for the Diseases of Children.

“On examination the body and limbs were found firm, full, well formed, and perfectly developed; when placed on his mother's knee the legs hung motionless, and there was no power of either drawing them up to the body or of straightening them; if the feet were tickled the child was rendered uneasy, but could not remove from the annoyance; sensibility was to all appearance perfect, not increased.

“The treatment consisted in alterative aperients, in which turpentine formed a part, also iron as a tonic, &c., while frictions were applied to the spine and limbs, and the douche-bath frequently employed. In the course of a few weeks the left leg was decidedly improved, being well under the influence of the will, but the right was *in statu quo*. The electro-magnetic chain having been suggested, the child's mother was anxious for a trial thereof; but after its application for some weeks she could not perceive any improvement, and laid it aside. The child is still under treatment, and is now able to move the right leg better; it is also able to withdraw the foot when the sole is tickled, and on bending the knee there is the sensation of resistance communicated to the hand; the muscles of the leg are soft and flabby, but its length and development keep pace with that of the left; just now there is a copious eruption on the head of eczema, and a little on the lower part of the trunk and limbs, which, as the teeth are cutting through the gums, I am not anxious to dry up. On March 28th it is noted that he makes a much better attempt at walking.

“CASE III.—C. M., aged four years, a delicate female child residing in town, had measles in a very mild form, and recovered favourably in December, 1851. On the 17th of March following she was again placed under my care, when I was informed that shortly after her convalescence from measles she began to lose strength; her appetite failed, and she presented the appearance of general delicacy, without any accompanying symptom, until the end of February, when it was perceived that she was unable to walk as well as usual. On this account a medical practitioner was consulted, by whose directions she was sent to the country, with instructions to have the limbs rubbed with a liniment, and to take some of the muriated tincture of iron. On examination I found that she could not support herself on her lower extremities, and only attempted to walk when held up by the shoulders; she then dragged her legs along and placed her toes first

on the ground when fixing her feet. Every two or three minutes, while sitting quietly on a sofa, she complained very much of a tingling sensation in the legs which she called 'sleepy;' she then grasped them with her hands, and presented very much the appearance of a person suffering a good deal. She was exceedingly irritable and peevish; the tongue was foul; the breath offensive; though the bowels were moved daily, yet the alvine discharges were unhealthy; pulse small, quick, and weak; countenance pale and anxious. Under the use of occasional alterative doses of gray powder, with quina and iron in different forms, and cod-liver oil, her appetite improved considerably, and she gained strength. The twitchings in her limbs were at first greatly relieved, and at length quite removed by warm fomentations, to which were added counter-irritation by liniments and blisters to the spine. This treatment was continued steadily until the beginning of April with marked benefit, so much so, that she was able to walk tolerably well, and seemed quite restored from the paralytic affection. Shortly after this it was observed that she was rather dull, and had become drowsy, which latter symptom increased notwithstanding the use of blisters, &c.; and finally, becoming more and more insensible until the last few days of her life, during which she seemed to suffer from sharp pain in the head, causing her to scream violently at intervals. The bowels now acted involuntarily; the pupils were widely dilated and motionless; pulse very small, quick, and feeble. In this state she lay up to the 13th of April, when violent convulsions supervened, occurring at intervals during the last day and night of her existence. I regret to say no post-mortem was permitted.

"It may be remarked that two children of this family died very early, one of hydrocephalus, the other of fungoid disease of the kidney. The parents were healthy.

"CASE IV.—M. O., a fine, healthy, female child, living in the country, had never suffered ill health of any kind whatsoever till the age of fifteen months. On the 23rd of October, 1850, her countenance was observed to present a heavy appearance, and in about an hour after this state was first noticed (2 o'clock, P.M.) she was seized with convulsions, and, notwithstanding various remedies promptly applied, they continued up to 11 o'clock at night, the fits running into each other without decided intervals, so that there appeared to be but one seizure from beginning to end. During the convulsions, the right arm and leg were moved violently, but the extremities of the left side remained motionless; the eyes were open and in constant motion; pupils widely dilated; profuse perspiration all over the body; pulse very rapid. The bowels had been open freely in the morning, but it was deemed necessary to keep up their action by the administration of some calomel followed by castor oil: as soon as the convulsions ceased she fell asleep.

"On the next day, 23rd, it was reported that she had slept well; tongue clean; bowels moved several times; motions passed of dark colour; abdomen soft; temperature natural; pulse very rapid, 160,



and small. She seemed heavy and inclined to sleep; she was perfectly conscious; she occasionally tossed about her right arm and leg, but the left extremities were quite paralyzed; the face had a twisted appearance, as if in a similar state, although such was not the case. It may be here mentioned, that she had six teeth prior to her present illness, and on the day she was seized with convulsions any that were protruding the gums were cut down upon. Mercury was now had recourse to, both internally and applied by friction; blisters to the head, and fomentations frequently to the limbs.

“On the 26th she had the advantage of a wet-nurse, and this way of taking nourishment she preferred to any other.

“On the 30th she could move the paralyzed leg when tickled, but the affected arm remained as before, though her hand was capable of grasping a little when irritated. In all respects she was improved: pulse steadily coming down, and gums a little touched with mercury.

“Nov. 30th. For the last few days the warm douche bath was used, and found most beneficial to the affected limbs. At this date she was able to move them freely, and a very good attempt was made at walking. She had continued the use of the breast-milk, along with other forms of nourishment, ever since.

“On December 6th she was able to walk a little: motion in the affected limbs was nearly restored; and the arm, though occasionally allowed to hang, could be used at pleasure.

“Before she had acquired proper power over her hand, she frequently seemed vexed at its inability to perform acts in accordance with her will, and in order to render it obedient she was accustomed, now and then, to resort to the use of chastisement, applied by the sound (the right) hand. Her general appearance was now healthy: she was in good condition, and preferred the breast-milk to any other food.

“From this date she was most carefully watched by her mother, and every precaution adopted likely to prevent a recurrence of convulsions: a constant discharge was kept up by blisters or issues, and as each tooth projected the gum it was freely cut down upon.

“March 6th, 1851. For one or two days prior to this date she was again observed to be heavy, and her mother not being able to pay her due attention, she was seized with a convulsion, but had only one fit. While the messenger was coming for me, her father, in order to save time, shaved her head and gave her a warm bath, and when I reached the house she was asleep.

“Under the use of the remedies before mentioned she soon got well.

“The next report I have taken bears date January 21st, 1853, a few days previous to which day she complained of very severe pain in the right side of her head, near the posterior half of the right parietal bone; and in about two days after this symptom her left hand was partially paralyzed, and her face had the expression of suffering, the brows being corrugated. Her mother at that time gave

her a warm bath, and applied a blister along the right side of her head. When I saw her I found she made a very feeble effort at grasping with the left hand, and her expression was not natural: her head felt hotter over the seat of pain than in other situations. By the application of a few leeches over the painful region of the head, followed by blistering and occasional doses of gray powder, her hand regained its usual power, and on the 10th of February she was altogether better, though not quite free from an expression of heaviness. Blisters were continued, also the gray powder, and she took some cod-liver oil and sulphate of quina. I frequently directed the iodide of iron, but was obliged to omit it, inasmuch as it caused her to be more irritable than usual, and feverish during its administration.

“Feb. 23rd. On the evening of this day she appeared rather heavy, knitted her brows a good deal, and while walking down stairs she complained of pain in her left leg. On this day, during her play with her brothers and sisters, she suddenly struck one of them (owing to a state of irritability, which was always observed by her parents as an indication of approaching convulsions). Soon after, she fell asleep, in which state she remained for about an hour, and on awaking was seized with one of the most violent fits of convulsions that she ever had since her first attack when an infant. She continued to work in convulsions (notwithstanding all the efforts made by her friends to stop the fits) till I arrived. They had given her a warm bath; cold had been applied to her head, and leeches to her feet, without effect. It was my intention to have applied a sinapism to the nape of the neck, but when rubbing some vinegar over the part beforehand she suddenly got rid of the fit, owing to the irritation produced by its coming in contact with an excoriated portion of the skin, to which a liniment had been rubbed a few days previously. She had no repetition of the convulsions, and in a few minutes she fell into a calm sleep.

“Next morning I found her perfectly herself, but for some days after there was considerable quickness of pulse. When she had so far recovered as to bear change of air, I had her sent some miles from home.

“The last time I saw her was on the 21st of March; she was then fat, lively, and playful, having entirely lost the frowning expression before alluded to. She continues to have a discharge kept up from the head by an occasional blister, and is using cod-liver oil.

“The arrangement of infantile paralysis into three classes, by Dr. West, will be found very convenient and useful. In the first class are included instances of congenital paralysis; in the second, those in which it is accompanied or followed by convulsions or other symptoms of cerebral disorder; and in the third are placed those cases in which paralysis occurs without indication of cerebral disease.

“The Case No. I. of those which I have just recorded was attended



with much obscurity, owing to the sad complication of idiocy. The child at birth, on account of its great size, was considered a very 'fine one;' but after a little its movements were observed to be awkward, and it was a matter of difficulty to determine whether the paralytic symptoms existed when born, or evinced themselves soon after birth,—the difficulty arising from the weak state of intellect; but from full consideration of the case, I am under the impression that it was certainly congenital. In Dr. West's published lectures he mentions a case which in many respects was very similar to this (No. I.). In his case, paralysis existed from earliest infancy; it had not succeeded to a fit; sensation was unimpaired; and the intellect was deficient. In my case the constitution was more at fault: the child, born of strumous parents, and, nursed by its unhealthy mother, was but ill prepared to battle against the difficulties of so complicated a malady. The very first step taken, viz., that of permitting the mother to nurse it, was most injudicious: in proof of the correctness of which opinion it is only necessary to observe the great similarity in the appearances found after this child's death and those observed at his sister's autopsy,—serous effusion and tubercular development existing in each. On the other hand, the advantages derived from obtaining the services of a healthy wet-nurse are well exemplified in this family, where two children, in every respect similarly strumous in constitution, are rendered to all appearance strong and healthy thereby.

"The second case comes under Dr. West's third form of the disease, viz., 'Those in which the paralysis occurred without any indication of cerebral disease.'

"In a paper read before this Society by Dr. Henry Kennedy, in the year 1840, and which is published in the Dublin Medical Press of September 27th, 1841, he has so accurately and fully described the complaint that I cannot do better than quote his words. He says,—'The first, and probably the most common, form of this disease is the following:—An infant at the breast is observed to have lost the power of moving an extremity, most frequently the upper. The mother states that it comes on suddenly; that the child had been put to sleep in perfect health, but on awaking that it had lost the power of moving the arm. When you come to examine, you find the arm quite motionless; you may raise it, but the minute it is let go it will drop to the side; nothing will induce the child to stir it, nor indeed do I believe it has the power to do so. . . . In addition to being paralyzed, it may be in a state of exquisite sensibility.'

"The cause of the affection is found to depend either upon a deranged state of the bowels, or the irritation consequent on dentition. Brisk purgatives and alteratives are the means found most likely to restore the limb to its usual power. If the teeth cause the irritation, the gums should be freely and frequently divided down to the tooth. Should the case be likely to prove tedious, friction along the spine, over the abdomen, and on the affected parts,

together with the warm douche, electricity, and tonics, should be used. It is desirable that paralysis occurring in infants should be removed as speedily as possible, otherwise the development of the affected members will not keep pace with that of the sound ones, from want of use. Cases of this kind should be examined with considerable care, inasmuch as they are liable to be mistaken for injuries, the mother supposing the child to have received ill-treatment from its nurse, or to have fallen out of her arms.

“ The third case reported affords an example of what may be termed the dregs of measles in a strumous constitution, and it fully explains why medical men look forward with so much anxiety to the approach of rubeola in children of a scrofulous diathesis, the lurking evil so often chosing this state as its most fitting opportunity for developing the seeds of death, which until now had lain dormant. The first case detailed afforded also an example of the truth of this; and in the fourth we have one in which disease decidedly is now just ready, and may at that particular period break forth.

“ When one child of a family has been carried off by hydrocephalus, and delicacy is seen to exist in the next, measures should be resorted to at once, with a view (if possible) to avert the dreaded calamity; and as a first great principle,—one which has been fully borne out by experience,—the services of a strong, healthy wet-nurse should be obtained; next to this in importance is the establishment of a permanent drain, by means of a seton or issue, from some convenient part, until the critical age has passed; and, if possible, the child should have a warm country residence. I may here mention, that in a family in this city where hydrocephalus prevailed, those children only were spared in whom the precaution of keeping up a constant discharge by seton or issue was adopted.

“ There are several circumstances worthy of note in the fourth case: the child had passed through a great portion of the time of dentition; it was weaned, and all through life had enjoyed most perfect health until the seizure of convulsions, which came on so suddenly, lasted for so long a time, and left her in a state of paralysis. In the management of the case, I was glad to have obtained the services of a wet-nurse, as some of the most troublesome of her teeth were still to come, and I believed this to be one of the most effectual means of preventing a recurrence of the attack, having in other instances proved its efficacy, particularly in a case where the child (a boy) had convulsions during dentition, in whom I was able to ward off the fits so long as he continued to use breast-milk, but no sooner was the nursing discontinued than they returned. Under the use of the warm douche, both limbs seemed to derive more benefit than from all other local applications; the means adopted for conveying the stream being a common garden watering-pot, with a gum-elastic tube attached, to the end of which tube a stopcock was fitted: and in order to give sufficient force, this vessel was suspended from a high ceiling.



“ Some time was allowed to elapse after this child had her full complement of teeth before the discharge was stopped, which had been instituted by means of a seton in the arm, and the occasional application of a blister to the head. Her health then seeming to be fully established, her friends thought such troublesome measures might be dispensed with, and accordingly left off their use: unfortunately, however, a recurrence of convulsions convinced them that the step they had taken was premature, and the counter-irritation was consequently resumed.

“ The last attack, which took place on the 23rd of February, made me fear for her safety: it was one of the most severe convulsions she had, and was attended with several unpleasant and suspicious symptoms, such as pain and heat in the head, quick pulse, partial paralysis, and great irritability. She has, however, so completely recovered from its effects that I still hope for ultimate restoration, provided that she escapes from those complaints already alluded to, viz., measles, hooping-cough, &c. The benefit derived from the exhibition of cod-liver oil in cases that have fallen under my observation has led me to hope for great improvement in the present instance from its use.

“ The remarks by Dr. Johnson, in his essay on Hooping-cough<sup>a</sup>, show how dangerous convulsions are to children in that disease during dentition; and although this child has passed that period of infantile life, yet, having suffered so frequently from convulsions, I very much dread in her the advent of this disease. Under the division ‘ Hooping-cough complicated with Convulsions or Hydrocephalus,’ Dr. Johnson says: ‘ Every one who has seen much of hooping-cough is aware that when it occurs during the period of dentition it is frequently accompanied by convulsions, and that they are among the principal sources of danger at that age. It is said that a child may be carried off by one of the convulsions; this, however, rarely happens. After their frequent return the case may pass into hydrocephalus.’ If in the above instance hooping-cough should unfortunately make its appearance, I purpose resorting to the steady employment of chloroform, which has not only the power of arresting the paroxysm, but frequently contributes to the production of tranquil sleep after the fit, and of shortening the duration of the disease. It may be administered with safety at first by spilling a little of it on the hand of the mother or nurse, who can then hold it before the child’s face when the cough is approaching. Its rapidity of evaporating, when thus used, prevents the risk of inspiring too large a quantity; but after they have acquired sufficient experience the usual means for inhalation may be adopted.

“ The last case I have to detail is one in which paralysis followed as the result of external violence.

“ CASE V.—W.C., aged seven years, a strong-looking boy residing

<sup>a</sup> *Cyclopædia of Practical Medicine.*

in the country, at the sea-side, was brought to the Institution for the Diseases of Children (on the 2nd of April, 1853), by his mother, who made the following statement:—Seven weeks since, while in perfect health, and engaged at play, he was thrown down upon his side, and ‘fallen upon,’ when down, by some of his playmates. The injury received at the time did not seem to signify, nor was any symptom observed until ten days after the accident, when it was found that he was incapable of opening his hand to take bread from his mother, and his gait at the same time was imperfectly accomplished. Nothing was done to him in the way of treatment till he was brought to the Institution. On examination, the right hand was found to hang; he could not open or grasp with it, neither could he straighten it on the fore-arm when the arm was raised. When walking, he permitted the foot to drop on the ground from want of muscular power, and he was unable to point the toes upwards. Sensation in the affected limbs was increased, and he frequently complained to his mother of a tingling sensation, which gave him much uneasiness. The muscular development had not suffered, the affected limb appearing as large and full as the sound one. His general health was to all appearance good, with the exception of an inflamed state of the conjunctiva of the right eye. Tongue clean; appetite good. The treatment pursued was the administration of two grains and a half each of rhubarb and gray powder every second night, with syrup of the iodide of iron during the day; warm salt-water douches to the spine and paralyzed limb, and a splint under the hand so as to keep it in a line with the fore-arm, which was supported in a sling.

“April 18th. He could walk nearly perfectly; could open, grasp with, and extend the hand on the fore-arm. In every respect his recovery seemed certain.

“This case (V.) is remarkable, as exhibiting the result of timely treatment. It may be observed that from the first symptom of paralysis making its appearance, the disease steadily increased till treatment was adopted, from which time the boy made rapid improvement.

“Having already noticed the advantages derived from the douche bath, I need only observe how useful it is to resort to the application of a splint. In the case just detailed it fulfilled a most important object in retaining the muscles in their proper position. In adjusting the splint, care should be taken not to extend the fingers on it, but to allow the support to reach only so far as the commencement of the phalanges, in order that the patient may have freedom enough to permit of his making endeavours to move the fingers.

“Since this paper was brought before the Society, the opportunity has occurred of testing the plan of treatment I had determined on when speaking of Case No. IV. This child had been attacked with hooping-cough, ushered in by a convulsion of an hour’s duration, still



not so severe as some of her former seizures. The next day the disease presented its characteristic features. I had instructed her nurse, who on the approach of a paroxysm applied a handkerchief, wet with a little chloroform, sufficiently near to allow of the vapour being inhaled. The result was, that the cough was rendered so exceedingly mild and short in its paroxysm as to be of no annoyance. It was found unnecessary to cause stupor, or anything approaching to that state, the mere inhalation of the vapour during a few inspirations being sufficient to bring about the satisfactory result. Previous to this treatment the cough presented its usual features, and just before the paroxysm the child was remarkably dull and heavy; but since the administration of the chloroform she has become as lively and playful as in perfect health. It is worthy of remark that, while all the children of this family (an infant excepted) passed through measles, this child, though constantly in contact with the others, resisted the disease. This may be accounted for in the following manner:—On the 13th of April she was in a shop in town, where a child who had whooping-cough was standing some short time. From this period she was not in any way brought in contact again with the disease. On the 1st of May measles had made its appearance in the family. She was presumed to be sickening for them, in consequence of her showing symptoms of catarrh (such as watery eye, &c.), but no other evidence, save that of slight cold, appeared. The convulsive seizure came on, the day previous to the cough assuming the peculiar characteristics of pertussis; namely, on the 19th of May.”

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*A Case of Placenta Prævia, in which Galvanism was employed. With Remarks.* By W. BOYLE CHAVASSE, Resident Surgeon-Accoucheur of the General Dispensary, Birmingham<sup>a</sup>.

ON March 21st I was called to see Ellen Brittain, who was reported to be flooding violently. She was a poor, half-starved woman; her husband had been out of work for six months, and now only earned six shillings a week by hawking oysters; with this sum he subsisted and lodged his family, comprising three adults. This was her sixth pregnancy; she was about eight months gone; had commenced flooding a month before, and since then had flooded four times. She was ghastly pale, with white, blanched lips, sighing respiration, cold extremities, no radial pulse, in fact, almost *in articulo mortis*. I gave her immediately a glass of hot brandy and water, and ordered hot irons, wrapped in flannel, to be placed near her feet and legs. I then proceeded to examine the uterus; her bed-clothes and night-dress were saturated with blood; the vagina contained many clots,

<sup>a</sup> Communicated to the Medico-Chirurgical Society of Queen's College, Birmingham.

and a slow oozing was still going on. The uterus was baggy and flaccid; the os was dilated to little more than the size of half-a-crown, and was rigid and undilatable; it lay very high up, the placenta occupying its whole circumference; there were no pains. In her exhausted state, turning seemed contra-indicated, for she would not have borne the shock; and again, the os was undilatable, but this last state might have been remedied by plugging the vagina, and waiting; in all cases of plugging, however, some blood must necessarily be lost before the plug acts, and in her case the loss of a few ounces more would certainly have placed her in a very precarious state. I, therefore, introduced two fingers into the uterus, and carefully separated the placenta throughout its whole extent, leaving the membranes unruptured. The centre of the placenta did not correspond to the centre of the os,—the head presented. Two scruples of ergot of rye infused in hot brandy and water were next given, and after waiting a quarter of an hour for the action of the drug, I, with some difficulty, managed with the point of a lead pencil to perforate the membranes just beyond the anterior margin of the placenta, making only a small opening, so that the escape of the liquor amnii might be gradual, and the disturbance of the balance of circulation avoided. The ergot soon after acted, and the uterus contracting, slowly expelled the liquor amnii, and firmly embraced the child.

The ergot did not give rise to any distinct pains, but produced a state of tonic contraction. Some hot milk, in which two eggs had been beaten up, and mixed with brandy, was then given. Mr. Lakin shortly after arrived; she had by this time slightly rallied; her pulse was small, frequent, and intermitting; her extremities still cold; her breathing easier.

We now determined to give her another dose of ergot; this time its action failed altogether, it produced neither pains nor contractions; indeed I think it rather prostrated the system more, for shortly afterwards she fell into a state similar to that in which I first saw her, in which the collapse seemed even to threaten death. At times she was so much exhausted that I thought, in spite of all my caution, some portion of the placenta must still remain attached, and that internal hemorrhage was going on.

The os was now more dilatable and dilated, and I endeavoured to pass my hand into the uterus and remove the placenta, but there was considerable tonicity of the uterus, and the head of the child was firmly pressing against the placenta, so that it could not be removed without the employment of considerable force. A portion of the anterior margin, however, was brought down into the vagina,—it was very friable.

On consultation we determined not to remove the placenta, for it was doubtful whether she could even bear the force we must necessarily use, now that the liquor amnii had escaped, and the uterus had contracted. We, therefore, resolved to wait for the pains.

She began soon afterwards to wander in her mind, and became



very restless, throwing her arms about, and sighing, and whenever we spoke to her or touched her, she begged us to leave her alone and let her die quietly. She continued in this state until five o'clock, when Mr. Lakin, having been obliged to return home, on his way back met Dr. Heslop, and mentioned the case to him, speaking of the exhausted state of the woman. Dr. Heslop recommended galvanism. I must confess I was at first somewhat sceptical as to its influence, for I thought that Dr. Simpson in his six cases had fully proved the inefficacy of this agent. I went home, nevertheless, for the apparatus:—that which we use at the dispensary is one of Gore's large electro-galvanic machines, containing twelve cells. While we were preparing the apparatus the patient vomited several times; we only used six of the cells; one of the conductors was placed up the vagina in contact with the anterior margin of the womb, the point of the other externally over the fundus. Now that the galvanic circle was complete, she complained that we were cutting her, and running things into her. After we had applied it for ten minutes it was extraordinary to see how her system rallied, her face lost its corpse-like aspect, her eyes brightened, her mind no longer wandered, her pulse was plainly perceptible at the wrist; but its effect upon the uterus was still more remarkable; the hand placed on the fundus felt the womb rise and contract until it became hard as a board; and when the galvanic circle was broken by removing the conductor from the fundus the uterus was left firmly contracted.

After continuing the galvanism for half an hour her nervous energy was so much rallied that we thought the ergot might now be serviceable; we, therefore, administered some mixed with a little brandy, but it did not remain long on her stomach, for in less than ten minutes she vomited it up. We continued the galvanism for two hours, when the pains came on spontaneously; by this time the uterus had descended much lower, more of the placenta passed into the vagina; one piece, the size of a walnut, was broken off by the pains and came away. The head of the child was felt endeavouring to ride over the anterior margin of the placenta, and the uterus was dilated to the size of the bottom of a wine glass.

We left her now, directing that we should be sent for when the pains became more urgent, or should the flooding recommence.

In an hour and a half we were sent for,—we found the child's head in the hollow of the sacrum, beginning to press against the perineum; the pains were strong, and in a quarter of an hour she was delivered. The child had a strong corpse-like odour, which leads me to conclude that it had been dead previously to the separation of the placenta. Its face, lips, and surface generally, were blanched and colourless; the placenta immediately followed the expulsion of the child,—it had been pressed into the hollow of the sacrum, and ridden over by the head during the passage of the child. No clots followed, proving that there had been no internal hemorrhage, as I at one time feared. The uterus was felt in the abdomen firmly contracted. She was bandaged up tightly, and a dry doubled

sheet was placed underneath her. In a fortnight afterwards she was still in a very anemic state, but was gradually improving.

This case proves,—first, that, contrary to the usually received dogma, rigidity of the os uteri is compatible with extreme exhaustion of the patient.

Secondly, that the placenta can be completely separated from the parietes of the uterus by means of the finger when the os is undilatable and rigid. The proofs that the placenta was actually detached are three: 1st. The fact that the considerable oozing going on previously ceased immediately upon the separation of the placenta; 2nd. If the placenta had not been completely detached, internal hemorrhage must have occurred after the rupture of the membranes, for we can hardly imagine that at the eighth month of pregnancy a child's head could be so large as perfectly to compress a placenta seven or eight inches long, and that placenta separated to a very great extent. That there was no internal hemorrhage is proved by the fact of no clot escaping upon the removal of the placenta, or the birth of the child. The third proof is, that after separating, I carefully felt the margin of the placenta all round, so that not the smallest part could be attached.

Thirdly, that galvanism is an ecbotic agent, and also a stimulant to the nervous system generally. That it is an ecbotic agent is shown fairly by the manner in which it stimulated the womb to contraction, and eventually brought on spontaneous pains. It had a decided influence, for each time the galvanic circle was complete the uterus contracted until it became hard as a board, and when the circle was broken the womb subsided into a state of firm contraction, the active and intense state of contractibility being again brought on by the re-application of the galvanic current.

Fourthly, this case proves also the correctness of the statement of Dr. Radford, when he declares “that galvanism not only originates the temporary contractions of the uterus, but also produces such a lasting impression on the organ that pains continue to occur until the labour is terminated.” That it is a stimulant to the nervous and arterial systems is shown by the brightening of the eye, the delirium of exhaustion ceasing, and the radial pulse becoming perceptible. Hence I think we may infer that galvanism is an important agent in all cases in which powerful contractions of the uterus are required, and that it is useful in hemorrhage both before and after labour, especially when combined with a funis presentation, it succeeds when the ergot fails, and when the uterus refuses to respond to the rupture of the membranes, friction of the abdomen, and the irritation of the vagina and cervix with the finger. I think also with Mr. Houghton<sup>a</sup>, that it will in many cases obviate the necessity of applying the forceps.

Fifthly, it may be remarked, as regards the apparent inactivity of the treatment, that as my patient was so much exhausted, I ought

<sup>a</sup> Dublin Quarterly Journal of Medical Science, vol. xii. p. 27.



cautiously and carefully to have dilated the os uteri, and have performed the operation of version. But here, two circumstances forbid that plan of treatment, either of which taken separately is important, but when they occur together, show that the do-nothing plan I adopted was in this case judicious. The first circumstance is the rigidity and undilatability of the os. Now, we know, that in placenta prævia the cervix uteri plays the part of the fundus, and its vessels become enormously increased in size. Supposing that I had forcibly dilated the part, and turned and brought down the feet of the child, is it not probable that the irregular parts of the fœtus, the knees, nates, &c., must have lacerated and contused a part, unprepared and undilatable? It is true that for a time the limb or body of the child may serve as a plug and restrain hemorrhage, but this does not hold good after the birth of the child, when the hemorrhage may and perhaps would have occurred,—and if so, in the exhausted state of my patient, it must necessarily have proved fatal to her. In the second case of placenta prævia I ever attended, I turned and delivered before the os was, as I now consider, sufficiently dilated. In half an hour afterwards I was sent for; blood was flowing profusely, although the womb felt firm and contracted in the abdomen. I had some difficulty in restraining the hemorrhage, and thought my patient would have died. In another case the patient was attacked three or four days after with irritative fever, if not actually phlebitis, produced, I think, by the contusion of the os. Dr. Lee, in his twenty-third case of placenta prævia, says: “The effect produced by the hemorrhage was so great that it was evident death would soon take place if the delivery were not speedily completed, and the state of the orifice was such, that it was certain the hand could not be passed but with the greatest difficulty. I passed the right hand into the vagina, and insinuated my fingers between the uterus and placenta at the back part, and reached the membranes. But the rigidity of the orifice was so great, that, though I employed great force for a considerable time, I could not succeed in getting the hand into the uterus. Dr. Merriman, who was with me, recommended rupturing the membranes, and I was proceeding to do so with the fingers, when I felt one of the feet of the child, which I grasped and brought down into the vagina, enveloped in the membranes, which gave way. Nearly half an hour elapsed before the version could be completed, and when it was effected, the neck of the uterus grasped the neck of the child so firmly that I experienced the greatest difficulty in extracting the head, and not till I had made pressure for some time with the finger, and dilated the orifice of the uterus. A great discharge of blood instantly followed, the placenta was removed, and every means employed to stop the hemorrhage, but the breathing became hurried, the extremities cold, and she died in less than an hour after delivery.” Reverting to my own case, the second circumstance was the extreme exhaustion of the woman. To turn when the patient is in a state of extreme exhaustion is now, I believe, generally deemed inadmissible. Dr.

Murphy in his Lectures says: "In a case of extreme exhaustion do not attempt to turn the child; rather separate the placenta, and leave the child undisturbed until some decided re-action takes place;" and in another place:—"If you were at once to turn the child and deliver, the fate of the patient would be sealed." Giffard, Smellie, and the late Dr. Rigby, relate four cases in which women, when extremely prostrated, have died from the shock of turning.

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*Case of Complete Amaurosis following Retinitis, successfully treated with Strychnia.* By DANIEL GRIFFIN, M.D., M.R.I.A., Licentiate of the King and Queen's College of Physicians in Ireland, and Physician to the County of Limerick Infirmary, &c.

JOHN O'DONNELL, a labourer, aged 62, was received into the county of Limerick Infirmary on the 11th of November, 1852, perfectly blind, but otherwise in good health. He could hardly perceive the strongest light. He said he was but five weeks ill. The complaint began with pain over the brows and in the top of the head, attended with vertigo, so severe as nearly to render him incapable of walking. He had neither been bled nor leeches, and had taken scarcely any medicine; indeed, very little seemed to have been done for him except blistering the occiput and vertex about a fortnight after the first accession of the attack: and to this he attributed his blindness, as his sight had, he says, remained unimpaired up to that time. The iris is sluggish in its movements, but unchanged in colour, and shows no depositions on its surface; the pupils of both eyes are perfectly black, and moderately dilated; there is a zone of red vessels round the cornea, extending a considerable distance from its edge, and the conjunctiva is slightly injected throughout; he stands with that staring, vacant look which betokens the absence of all perception of external objects; there is considerable vertigo still, but the pain is abated.

Eight leeches were applied to each temple. He was ordered blue pill, hydrargyrum cum cretâ, nitre, and Dover's powder, in moderate doses, three times a day. On November the 15th, four days after his admission, the leeches were repeated as before, and he was directed to persevere in the use of the powders, which, on the 29th had produced so little effect that they were ordered to be taken at shorter intervals.

December 1st. There is scarcely any appearance of mercurialization, and the only change observable in the eyes is the removal of the increased vascularity and their return, in this respect, to a healthy aspect: there is not, however, the least sign of returning vision, even hardly so much as the perception of light. As I rather distrusted his statement regarding the length of time he was ill—many persons of his class seeking admission to the infirmary merely for the sake of temporary support—moreover, as I suspected, from the severity of the pain and vertigo, that the affection was associated with organic disease of the brain, I was very much in despair as to



his chances, and was about to dismiss him as incurable. On my visit next day, however, he told me he thought there was some slight amendment: I, therefore, directed him to remain, and ordered the following pills, one to be taken every night:—Strychnia, one grain; extract of gentian, six grains; to be divided into twelve pills: the powders to be omitted. December 9th. A decided and considerable improvement; the pills to be continued. 13th. Rather stationary since last report; to take a pill night and morning. 27th. The improvement goes on rapidly. He can see all objects around him with considerable distinctness, and walks much more steadily. January 13th, 1853. Very much improved. 26th. The right eye is perfectly restored, and the left nearly so. He says he can read his prayer-book quite as well as he ever did. Dismissed.

I observed during the progress of this case that the retina recovered its functions, not by a gradual amendment extending over its whole surface, but in parts and patches separately, almost as if these parts had no physiological connexion. It was singular to observe the odd attitudes he threw himself into as the improvement went on, to find out those parts of the membrane with which he could see when an object was placed before him, such as the hand or the finger. In all cases which have their origin in an inflammatory affection, it would seem to be of great importance to remove all traces of inflammatory action, as well as to pay extreme attention to the general health, before the use of strychnia is commenced.

This remedy has long had a high repute in the treatment of amaurosis, yet M. Riberi says, in the cases which he has hitherto administered it he has derived little or no benefit therefrom. He suspects, however, that in some of these he has not persevered long enough; and remarks, that the successful cases hitherto on record seem to indicate its use in incomplete rather than in complete amaurosis. I believe he always used the endermic method; and, from some published cases of his, he seems to depend more on *nux vomica* than on strychnia. It is singular to observe what a small amount of this drug is sufficient for success in some instances. The whole quantity which produced a complete restoration to sight in the case of O'Donnell was somewhat short of eight grains, and this spread over a space of about eight weeks, making about one grain per week.

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*On an Alvine Concretion, consisting of Cholesterine.* By WILLIAM D. MOORE, A.B., M.B.

WHILE occupied with the translation of the abstract of Dr. Alber's paper on Concretions in the Cæcum, given in the present Number of this Journal, it occurred to me to take the opportunity of placing on record a short note of a calculus which I examined with Dr. Hill in the month of August, 1850, and which we considered to have formed, if not altogether, at least in greater part, in the intestinal tube. The concretion in question was passed by a young lady, about whom Sir Henry Marsh had been consulted, and who had for

some time suffered from obstinate constipation and colicky pains, and had at last, with great pain and straining, voided it *per anum*. She had never suffered from jaundice, pain, or other symptoms, whereby the passage of a gall-stone could be inferred. The calculus in size and shape resembled a pullet's egg; it weighed 210 grains, but was specifically lighter than water, as was proved by its floating when placed in a vessel of that fluid. Its outer surface was tubercular, and exactly resembled that of a mulberry urinary calculus. Some shining scales were visible externally, and also throughout the mass when cut. On the application of heat it first fused, and then burned with a bright flame. It dissolved completely in boiling alcohol, and on cooling separated from its solution, as was seen under the microscope, in broad tabular crystals of cholesterine, which, with a small admixture of fæcal matter, composed the bulk of the concretion.

Many writers have supposed that because calculi found in the intestines, or voided *per anum*, have been proved to consist chiefly of cholesterine, they must necessarily have formed in the gall-bladder<sup>a</sup>, and from that have passed either through the ducts, or by ulceration, into the intestine; and, in support of this view, it has been argued that, where the parts are neither inflamed, nor in a state of spasm, "the ductus choledochus may be considered to be in a passive state, admitting of an easy and gradual extension of its fibres, so as at length to allow of the free egress of the stone." It has also, indeed, been clearly proved by the example of a case in which a biliary calculus, in passing to the bowel, about a fortnight before being voided *per anum*, induced jaundice, yet gave no pain; that "the progress of gall-stones (even when inordinate in their dimension), through the ducts, is not disproved by the absence of pain from the epigastrium"<sup>b</sup>.

However admissible the foregoing arguments may be, and conclusive as the case detailed by Dr. Wilson is in establishing the proposition he advances, a little consideration will, I think, show, that the fact of a calculus consisting in whole or part of cholesterine, is not sufficient to prove it to be of biliary origin. For cholesterine is, according to Berzelius, "universally diffused through all parts of the body, and dissolved in its fluids"<sup>c</sup>. Simon states that it is a normal constituent of the bile, of the brain, and of the spinal cord<sup>d</sup>. "It has been found," he adds, "in the blood; in the vernix caseosa; in the fluid of hydrocele; in an encysted tumour in the abdomen of a woman; in the ovary and testicle in a diseased state; in an abscess of the tooth; in a scirrhus structure in the mesocolon;

<sup>a</sup> See, for example, Mr. Thomas' observations in the *Medico-Chirurgical Transactions*, vol. vi. pp. 104, *et seq.*

<sup>b</sup> An Account of an unusually large Biliary Calculus, voided from the Rectum. By James Arthur Wilson, M. D., Physician to St. George's Hospital. *Medico-Chirurgical Transactions*, vol. xxvi. p. 80.

<sup>c</sup> *Thierchemie*, p. 173.

<sup>d</sup> *Animal Chemistry*, Sydenham Society's Translation, vol. i. p. 82.



in fungus medullaris; in medullary sarcoma; and in a vesical calculus extracted from a dog." Such being true, it is of course easily conceivable that a concretion composed of cholesterine might form, under predisposing circumstances, in some portion of the intestinal tube.

Dr. Douglas Maclagan was aware of the fallacy of inferring the origin of such calculi from their composition, for in his excellent paper on the Constitution of Intestinal Concretions, published in the London and Edinburgh Monthly Journal of Medical Science for September, 1841, he observes, after describing a case in which vast numbers of small concretions had been passed, in reference to the question, as to whether these were a variety of gall-stone, that "the presence of cholesterine is no criterion. This substance is not only," he observes, "contained in the bile, and is thus poured into the intestinal canal, where it may easily be deposited; but it is frequently found in situations totally unconnected with the biliary organs." This statement is so very explicit, that I should not have thought it necessary here to enter upon the question, did I not find that many are still of the opinion that concretions of cholesterine must necessarily be derived from the hepatic system.

In conclusion, with respect to the patient, in reference to whose symptoms Sir Henry Marsh was consulted, it is clearly possible that the concretion voided by her may have been, not of hepatic, but of intestinal origin; and it appears to me that, if this be admitted, it will also be allowed to be more probable that a large calculus, such as I have described, should have formed in the intestine, than have passed in a young subject from the hepatic system to the bowel, either through the ducts, or by ulceration, without giving rise to pain or jaundice.

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*On Typhlolithiasis and Typhlostenosis*, by DR. ALBERS.—The author's object in his paper, which appeared in the *Archiv für Physische Heilkunde*, is to throw some light on these two affections, the formations of concretions in, and the constriction of, the cæcum. Although these forms of disease are rare, they are not less dangerous than perityphlitis, typhlitis, and perforations of the appendix vermiformis. In a scientific point of view, therefore, it would follow, that these diseases, however much the constitutional disturbances to which they give rise may differ, are nearly similar in their terminations; in like manner ossification everywhere depends on the same proximate conditions; and osteosis of the cæcum further shows, that the cicatrix of a healed lesion may still be capable of producing death. (The latter fact has long since been established in less rare forms of disease.)

I. Of intestinal concretions, those occurring in the cæcum demand our chief attention, on account of the severe sufferings produced by them. The attending symptoms are those of an inflammatory ileus,

the result is most generally fatal. As to situation, they occur either, (1) though most rarely, in the depression on the surface of the ilio-cæcal valve, looking towards the small intestine; or, (2) in the vermiform process; or, (3) on the broad surface of the cæcum, where they are generally retained by a projecting intestinal fold.

Even in the healthy state the ileo-cæcal valve is more strongly developed in its right half than in the left, and it there forms a depression similar to that of the semilunar valve of the aorta. This portion of the valve becomes still further developed in individuals who have repeatedly suffered from fæcal accumulations, or typhlitis stercoralis, and the above-mentioned depression then becomes a kind of pouch. In this lie concretions which probably have formed in the upper portions of the intestinal tube, and which, having passed down, are accidentally detained in it. Half of such a concretion which was sent to the author was as large as a walnut, and consisted of two distinct layers. The external, a light, friable, calcareous crust of some thickness; internally white, and enclosing a few portions of the rind of kernels of fruit: externally brown, and speckled here and there with white points. The nucleus was surrounded with a similar but much thinner layer, appearing like a leaf folded on itself, and gradually blending with the nucleus. Between the folds lay blackish grey-brown masses of hardened fæces. Microscopic examination disclosed in both layers a number of amorphous granules, of which the internal were more transparent than the external. In the centre of the nucleus were observed, with the aid of the microscope, the remains of a portion of cabbage leaf, and of muscular fibre, with crystals, including some of triple phosphate. From this, and the statement obtained of the post-mortem examination, it was inferred, that a nucleus of fæcal and calcareous matter had first formed, perhaps even in the higher portion of the small intestine, and that, during the retention of this nucleus in the pouch already described, a coating, consisting almost exclusively of calcareous granules, the result of a peculiar secretion of the mucous membrane, had been deposited on it. The condition of this thick coating, which was, moreover, quite uniform, proved the long detention of the concretion in the depression alluded to; the latter was, in this case, enlarged into the form of a sac, the mucous and muscular coats being atrophied in consequence of the pressure of the concretion, which was found immediately under the serous coat. The author illustrates this simultaneous obliteration of the intestine by the analogy of œsophageal diverticula. In addition, a congestive or inflammatory irritation appears sometimes to occur around the concretions, perhaps even causing the formation of organic blastemas, which envelop the concretions, and, where the latter are encysted, give the entire the appearance of a morbid growth. In proof of this the author quotes cases of the occurrence of such calcareous formations in other parts of the intestinal tube, but especially in the colon and the small intestines.

The concretions which occur in the vermiform process are, ac-



according to the observations which have hitherto been made, incrustated foreign bodies, or calculi properly derived from the mucous membrane.

The concretions found on the broad surface which the cavity of the cæcum presents internally have likewise been, in some instances, incrustations; in others, originally developed calculi. The author, in support of this, also quotes the observations of writers in reference both to man and the lower animals. These calculi have in general a roundish oval form, corresponding to the bulgings of the cæcum, and, like urinary calculi, present an uneven, mammilated surface, and frequently bear, as they do, impressions of the folds of mucous membrane. They consist of a light nucleus, on which the solid earthy layers have formed. In incrustations, too, the outer crust deposited around the foreign bodies is composed of layers, showing the interrupted manner in which the incrustation has taken place. Between these layers we find yellowish and gray deposits, as thin as paper, by means of which the several strata of deposit are, as it were, cemented together. In incrustations the nucleus is always a foreign body; in other concretions it is either a visible or invisible fæcal particle, or a pure calcareous mass. If the nucleus is soft, it may be assumed that it contains the residue of some article of food, such as crumbs of bread, or husks of oats or barley. Incrustations may contain the most dissimilar foreign substances, but a gall stone rarely forms the nucleus. The question whether all alvine calculi are not incrustations, and chiefly such as are found around gall-stones, has been answered in the negative by the investigations and experience of the author and others, and it has been proved that concretions found in the cæcum are in general calculi purely derived from the mucous membrane, or incrustations, with commingled fæcal matter. The usual colour of these concretions in the human subject is brownish-yellow externally and in the nucleus, and white in the layers; in the horse they are ash-grey, both internally and externally; in serpents they are white; the bezoar of the mammalia is yellowish-white. Human concretions differ from those of the lower animals in the variety of their colouring, and their striking stratification. The best accounts given of the chemical nature of these formations are those by John, Davy, Thomson, and Wollaston. In no part of the intestine can the formation of concretions be regarded as the result of a purely chemical decomposition, the co-operation of a vital action is always requisite; a morbid secreting process, by which either the chemical elements are placed in a position, and receive a tendency, to combine, or an adhesive matter capable of uniting them, is prepared. This view is supported by the laminated constitution of the calculi and the simultaneous existence of several concretions. Most of them receive their foundation from the ingesta, and their further development is due to the aggregation of ingredients formed by abnormal secretion. The circumstances which determine these serial formations exhibit nothing essentially characteristic or different from those which attend other

affections of the cæcum. Besides, most of what the author says on the subject, and on the treatment, is borrowed from others. A case observed by him, in which the calculus was expelled by suppuration through a vicarious anus, gives, with Monro's corroborative experience, a hint to surgery.

II. *Calcareous deposits and formation of bone on the cæcum and in the surrounding parts.*—The former take place principally in the areolar tissue which attaches the cæcum and ileum to the abdominal parietes, close to the edge of the intestine, in the depression which the bowel forms posteriorly where it lies on the abdominal wall. They form concretions from the size of a pea to that of a hazelnut, which lie along the intestine in a series extending from an inch to an inch and a half in length. In the fresh state they are white, soft, and mortar-like; when dry, they are hard, as friable as chalk, or somewhat firmer; in the folds at the opening of the ileum into the cæcum round the junction of the latter with the colon, they penetrate from the sub-peritoneal areolar tissue into the wall of the intestine, injuring both its muscular coat and the intestinal canal. If they attain a more considerable size, they not only give rise to atrophy of the wall, but impede the peristaltic motion of the intestine. The fæces lie here, instead of being passed onwards, particularly when the earthy deposit, by its projection, diminishes the caliber of the canal, at the same time that by its size it interferes with the intestinal movements. Obstruction of the canal, impaction of the fæces and of the ileum, are the results. But a very calcareous mortary deposit seldom occurs in the cæcum without a similar deposit being at the same time found in the mesentery and in the lymphatic glands. Since the latter exhibit, in the chalky masses deposited in their interior, only the cicatrices of cured scrofulous affections, it is probable that the deposits around the cæcum owe their origin to the same disease, and that they are the remains of scrofulous formations which have previously taken place in the neighbourhood of this portion of the intestinal tract. The author, having attempted more fully to prove this position, proceeds to mention cases of illness caused by these chalky deposits. Since scrofula most generally leaves behind it only small morbid productions, from the size of a pin's head to that of a pea, which are subsequently found in the long fibrous areolar tissue surrounding the cæcum, and therefore appear in cicatrizing to have removed further from the intestine and to have withdrawn into the areolar tissue; and as they are even found in adults without having been attended with illness, they, as the remains of a disease which had existed, point to an interesting process of cure. On the contrary, those deposits which by their size prove injurious to the intestine, are so much more important for the physician, as they may even be the cause of death. A pain in the right iliac region, which is observed from time to time in scrofulous patients, is increased on pressure and thus exhibits its inflammatory nature; tension of the part usually occupied by concretions, and of the entire swollen abdomen; attacks



of diarrhœa with very mucous stools; nightly perspirations; paleness; fretfulness and variable appetite, lead to the suspicion of scrofulous depositions taking place in the neighbourhood of the cæcum. The occasional inflammatory irritation (pain) indicates what is going on in the cavity of the cæcum; when the inflammation extends to the mesentery, the seat of pain also becomes more extensive. If these symptoms, as they usually do, pass over disregarded, more considerable deposits of calcareous matter sometimes suddenly induce the most violent attacks of an inflammatory ileus. But even the less considerable depositions, which are not commonly brought under the notice of the physician, may excite an inflammation of the areolar tissue, a spurious peritonitis, which then in its turn may cause a perforation of the cæcum, as is observed in perityphlitis (rheumatica). Besides this deposition and calcification of the scrofulous matter in the areolar tissue, a calcification occurs in the glands which sometimes lie immediately on and about the cæcum. The intumescence of the mesenteric glands does not, generally speaking, always occur in the several cases of scrofulous disease in the same part of the mesentery. Their accumulation around the cæcum is rare, and then it is often found that they contain within them mortar-like, chalky masses, one of which forms the centre point of each independent gland. Convolutions of glands, as large as hens' eggs, often occur on the edge of the cæcum inclining to the great mesentery, while some of smaller size are found in the little mesentery of the vermiform process. The effects of such glandular masses, whether they contain calcareous deposits or not, on the portion of the intestine they adjoin, are the same as those of the above described deposits. They paralyze the intestine by their pressure, and cause torpor of the bowels and obstinate constipation. These glandular formations explain many of the symptoms which attend scrofula, and especially the constipation so frequent in combination with pain in the ilio-cæcal region. The cæcum being compressed and paralyzed by the enlarged mesenteric glands, is in such cases the proximate cause of the constipation. Ossification of the size of a pea, of a grape-stone, or of the shape of a little flat disk, occurs on the cæcum, especially on the arch of its free extremity. These are situated in the wall of the intestine, in the areolar tissue, or the muscular coat, and are consequently covered externally by its serous, and internally by its mucous, membrane. Dr. Albers' view is, that the subserous areolar tissue is the exclusive seat of such ossifications. Such superficial formations of bone appear to resemble those which occur in the form of flat disks under the pleura, on the arachnoid membrane of the brain, and on the peritoneum, and to be the result of a previous inflammation. The more frequent occurrence of such ossification on the cæcum than in the rest of the intestinal tract has been supposed to be owing to its situation being more favourable to such formation. This portion of the intestine is more liable than the rest to insidious inflammatory attacks; an inflammation of the cæcum may generally (?) be suspected whenever

the right iliac region is the seat of pain increased by pressure, and the other symptoms of the case indicate an affection of the digestive organs. If the inflammation run tolerably high, there will surely be a deposit of blastema in the intestinal walls, laying the foundation of osseous formation. In addition, it must be borne in mind, that scrofulous inflammations have their seat in this portion of the intestine, and in healing leave behind them chalky masses. Ossification of the appendix vermiformis, as well as the formation of chalky deposits on this part, is rare, although the deposition of scrofulous and tuberculous blastemas is frequent, particularly at its blind extremity under the peritoneum. Inflammation of the vermiform process seldom terminates in the manner above described, because the products of inflammation are almost entirely absorbed on the setting in of convalescence. It is supposed that this process possesses such a discutient power, in common with other canals invested with mucous membrane, in virtue of the abundant secretion of the latter being a means of relieving the disease and removing the morbid products; and the mucous (and fæcal) masses found in the appendix, show that its mucous membrane is capable of producing an abundant secretion. Dr. Albers, in conclusion, narrates two cases in which chalky deposits were found in the vermiform process. (We have reproduced this essay somewhat in detail, in order to place the reader in a position to judge how far the author has attained his object, as stated by him at the commencement, of throwing some light on lithiasis and osteosis of the cæcum.—Ed. V. f. d. p. H.)—*Vierteljahrsschrift für die praktische Heilkunde*, 1853. 1 Band. *Analekten*, p. 46.

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*Case of Laryngeal Polypus.* By DR. G. TOURDES.

IN but one of thirty-one cases of laryngeal polypi, recorded by M. Ehrmann<sup>a</sup>, did recovery take place, and in it tracheotomy, performed in time, succeeded in saving the patient. Dr. Tourdes now adds to these melancholy statistics a fresh example of fatal termination. Perhaps, says he, the case I am about to detail may not be without some use as an additional argument in favour of an operation which too much want of success has thrown into discredit, but which is, nevertheless, valuable as an ultimate resource. Aloïse Saint-Julien, aged seven years, was admitted into the Orphan's Asylum at Strasburg, after the inundations of the month of September, 1852. He was a child of feeble constitution and of lymphatic temperament, affected with goitre, and presenting some of the features of cretinism. From information, which was not obtained until after his death, it appeared that he had been for some time subject to attacks of dyspnœa, which imperilled his life; and when his relatives

<sup>a</sup> Histoire des Polypes du Larynx, par M. Ehrmann, Professeur à la Faculté de Médecine de Strasbourg. Folio, avec planches. Strasbourg: 1850. [This important work is analyzed in our present Number. See page 117.—Ed.]



heard that he had ceased to exist, they expressed no surprise; they expected, they said, that he would die of suffocation. Soon after his arrival in the Asylum he took ill, being seized with very severe fits of coughing, attended with symptoms of impending asphyxia; on the 16th of November he was transferred to the Clinique for children's diseases, where I saw him for the first time. On entering the hospital the patient exhibited intense anxiety; at times asphyxia appeared to be imminent. During the attacks of dyspnœa the respiration was loud, sibilant, spasmodic, and accompanied by a hoarse cough; expiration seemed much more painful than inspiration. The paroxysm terminated without expectoration. During the interval between the attacks the dyspnœa invariably continued well marked; the voice was hoarse, altered, but never entirely lost; the cough was frequent, raucous, and sibilant, without expectoration. Auscultation showed a remarkable diminution of the respiratory murmur in both lungs, without any *râle*. Respiration was sibilant in the trachea and larynx. The throat and upper part of the pharynx showed no trace of false membrane; a little redness alone was visible. Pressure on the larynx externally gave no pain; no swelling could be discovered; the lymphatic glands of the neck were not enlarged. The skin was hot, and the circulation very much hurried. What was the cause of the impending asphyxia? The difficulty of diagnosis was increased by the absence of all information as to the boy's previous history. The first idea which occurred to me was that there might be a foreign body in the windpipe. On careful investigation, however, none was found; the patient's statements, too, were inconsistent with such an hypothesis. Was it a case of croup? The majority of the symptoms militated against this supposition. No trace of abscess was found in the larynx or its neighbourhood. There was no indication of œdema of the glottis. An acute idiopathic laryngitis might produce some of the symptoms, but could not explain all. By exclusion we arrived at the hypothesis of a laryngeal polypus, but the absence of all information as to the patient's antecedents removed one of the most valuable elements of diagnosis. In this uncertainty I took the opinion of my friend and colleague, M. Stoeber; he also thought that there was an obstacle to the passage of air in the larynx; that it was difficult to state its precise nature; but that tracheotomy was indicated as the most rational means of safety.

We referred the matter to our able operators, MM. Rigaud and Wiegner. Deterred by the obscurity of the diagnosis, they hesitated, and, finally, expressed themselves against the operation. They reminded us that all the operations of tracheotomy, performed in the Strasburg hospital under analogous circumstances, had been followed by fatal results; we did not persevere in endeavouring to overcome their scruples: they were based on too serious motives, and we had not the elements of complete conviction to oppose them. The idea of tracheotomy having been abandoned, the indication now was to endeavour to destroy the obstacle which seemed to be placed

at the entrance to the larynx; two means were employed,—emetics in divided doses, and cauterization applied as directly and as deeply as possible. Tartar emetic was given at intervals; burnt alum was blown in; the back of the throat was touched with solution of sulphate of copper. Recourse was also had to mercurial frictions. All these measures were unavailing; the dyspnœa diminished for a few moments to re-appear with renewed intensity; the cough was constantly dry; the voice hoarse and sibilant, but not more changed than at the commencement. Intense fever soon set in; the patient experienced severe pains in the chest; the oppression became constant; the respiratory murmur was scarcely perceptible. A very acute double pleurisy was added to the original affection; the strength rapidly gave way, and on the 24th of November, eight days after his admission, the patient expired in an attack of dyspnœa, aggravated by the pulmonary complication, but evidently due, like the preceding attacks, to the lesion of the larynx.

The autopsy revealed the presence, under the glottis, of one of those vegetations which are known by the name of laryngeal polypus. A reddish, tolerably soft tumour, studded with protuberances, of the size and form of a flattened strawberry, occupied the left ventricle of the larynx, and extended over the arytenoid cartilages, to the right ventricle, which was intact. The posterior and left lateral portions of the glottis were closed by this polypus, which occupied about three-fourths of the opening. This tumour was attached to the larynx by a very wide base; with this exception, it had much resemblance to the vegetations represented in M. Ehrmann's Plates, No. I. Fig. 2, and No. II. Fig. 1. The thyroid glands were highly developed, and united in front of the trachea. A thick layer of false membranes, soft and albuminous, covered the two pleuræ; the pulmonary tissue was simply congested; the bronchi contained a great quantity of frothy mucus; the mucous membrane itself was healthy. This case is suggestive of several remarks. If the previous history of the patient had been known, the diagnosis would have been based, we may believe, on evidence sufficient to remove all opposition to the operation of tracheotomy. But, in the absence of all such information, the symptoms left the case doubtful. If we examine, in fact, the several cases of laryngeal polypi which have been published, we shall see that the course of the disease, and the gradual development of the symptoms, have furnished the signs which have determined the diagnosis. Authors do not describe any pathognomonic character; to the symptoms which indicate that the obstacle to the entrance of the air has its seat in the larynx, they add, as more direct proofs, the *bruit de soupape*; the fact of expiration being more difficult than inspiration; the expectoration of fragments of the polypus; the touch, too, if the foreign body has passed the epiglottis. But all these characters may be wanting, and most frequently it is the duration and the progress of the disease which remove uncertainty and confirm the diagnosis. In the present case this element of proof was altogether absent. The existence of the goitre might have ren-



dered tracheotomy difficult, but if performed in time the operation would, without doubt, have prolonged the patient's life. The double pleurisy, which accelerated his death, was but slowly developed. There was no organic contra-indication. The obstacle to respiration was situated in the larynx; the trachea having been opened, the air would have reached the lungs without impediment. The performance of the operation would have been, however, but the first part of the task; the second would have presented serious difficulties. To have effected a radical cure, it would have been necessary to destroy the polypus by cauterization, or to remove it by excision. In this, undoubtedly, we should have had the example of M. Ehrmann's successful case: having prevented asphyxia by opening the trachea, our learned colleague divided the larynx and cut away the polypus, interposing an interval of two days between the two operations. In my patient the tumour was attached to the larynx by a very broad base, which would have further increased the difficulty of cure. A feeling of repugnance naturally arises to the operation of tracheotomy; in croup especially this feeling is justified by the usual want of success, and by the results of post-mortem examinations, which most frequently show that the extension of the disease would have rendered operation useless. In Strasburg tracheotomy in croup has for many years invariably failed. However, in two instances in which these general considerations prevented the performance of the operation, I saw dissection prove that tracheotomy might have saved the patient. The first case was that of a child who sank under a purely laryngeal croup, without any affection of the trachea or bronchi. This unfortunate patient was brought to hospital some days after another child, who died of croup in spite of the operation. This failure offered little encouragement to renew the experiment; the operation was not performed, and yet it might have succeeded. The second case is that of laryngeal polypus just detailed. It is as an additional argument in favour of tracheotomy that I contribute this case to the sad statistics of laryngeal polypi. As before remarked, of thirty-one cases collected by M. Ehrmann in his memoir, thirty were fatal; doubtless this proportion might have been different if tracheotomy had been more frequently resorted to.—*Gazette Médicale de Strasbourg*, January 24, 1853, p. 9.

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PART I.  
ORIGINAL COMMUNICATIONS.

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ART. IX.—*On Spontaneous Varicose Aneurism.* By ROBERT MAYNE, A. B., M. B., Lecturer on the Practice of Physic at the Carmichael School of Medicine, and Physician to the Hospitals of the South Dublin Union.

THE abnormal communication between an artery and its accompanying vein, which sometimes results from a wound of these vessels, was first brought under the notice of the profession, very nearly a century ago, by Dr. William Hunter, to whom must also be conceded the merit of having accurately described the symptoms by which this affection may be recognised, as well as the principles upon which its treatment ought to be conducted.

In cases of this description the communication between the artery and the vein is sometimes direct and immediate, constituting what is called an aneurismal varix, or, it may be, that there is a sac or pouch interposed and forming the medium of communication between the vessels: this latter variety is usually called a varicose aneurism.

Since the date of Dr. Hunter's papers, published in the Medical Observations and Inquiries, many able writers, such as Cleghorn, White, Larry, Hodgson, Dupuytren, and Breschet,



have described these affections; and therefore, *traumatic* varicose aneurism, and *traumatic* aneurismal varix, are now so well known that any further observations on them in the present day might well be considered superfluous. In later years it has, however, been discovered, that an abnormal communication may be established between an artery<sup>a</sup> and its accompanying vein, *as a consequence of disease, without the intervention of any wound whatever*, and as the clinical history of cases of this description is as yet imperfect, I am induced to make known the details of one which lately came under my observation.

When an abnormal communication occurs between an artery and its accompanying vein *as the result of disease*, the *primary* mischief is almost constantly situated in the artery, and consists of some one of the many varieties of aneurism or aneurismal dilatation; the tumour thus formed by the artery in its progress contracts adhesion to the vein, and in process of time the partition intervening between the arterial and the venous blood giving way, the arterial current gains ingress into the vein. *Spontaneous* varicose aneurism is the term in general use to designate cases of this description: it differs essentially from the *traumatic* varicose aneurism, in being the result of disease and not of a wound. It seldom or never happens that the primary mischief is seated in the vein, because the coats of veins are much less prone to disease than those of arteries, and besides, arteries possess uncommon powers of resistance to ulceration from without.

In the year 1831 Mr. Syme published, in the thirty-sixth volume of the *Edinburgh Medical and Surgical Journal*, the particulars of a case in which an aneurism of the abdominal aorta communicated by an aperture, somewhat larger than a sixpence, with the inferior vena cava. This, which would appear to have been the earliest case on record of a spontaneous communication between an artery and its accompanying vein, was followed by a report of others in *Edinburgh*, *London*, and *Dublin*.

The readers of the *Dublin Journal of Medical Science* will call to mind a case related by Mr. Adams, in the eighteenth volume of the first series<sup>a</sup>, amongst the *Proceedings of the Pathological Society*, in which a true aneurism of the common iliac artery opened into the common iliac vein.

Dr. Law, Professor of the *Institutes of Medicine* in the *School of Physic* in *Ireland*, has also recorded, in the twenty-first volume of the first series of this *Journal*<sup>b</sup>, a highly in-

<sup>a</sup> Page 166.<sup>b</sup> Page 443.

teresting case, in which an aortic aneurism formed a communication with the superior vena cava.

In the *Cyclopædia of Anatomy and Physiology*, edited by Dr. Todd, Article, "Artery, Pathological Conditions of," Professor Porter has given the history of a case in which the popliteal artery and vein were the vessels implicated.

Mr. Thurnam is, however, the author to whose laborious researches and observations we are indebted for the best description of spontaneous varicose aneurism; his paper, published in the fifth volume of the *Medico-Chirurgical Transactions*, Second Series, is too well known to require any commendation.

He includes in the same class, aortic aneurisms communicating with the pulmonary artery, or with the right auricle or the right ventricle of the heart, and in this arrangement he is probably justified, because, physiologically considered, the right side of the heart and the pulmonary artery are portions of the venous system, or of "the system of black blood," as Bichat would have called it.

The Dublin School has contributed some valuable cases of this latter description. The reader is referred to the eighteenth volume of the First Series of the *Dublin Journal of Medical Science*<sup>a</sup>, where he will find amongst the records of the Dublin Pathological Society a case by Dr. Robert Smith, Professor of Surgery to the University of Dublin, in which a communication was established between the aorta and the pulmonary artery; and Dr. M'Dowel has still more recently laid before the same Society a specimen of aortic aneurism which burst into the right auricle of the heart<sup>b</sup>.

The following case is one of sufficient importance to be specially recorded:—

Anne Flynn, aged 50, was admitted into the hospital of the South Dublin Union, on April 22nd, 1853.

She had been employed the day previously in the laborious occupation of scouring buckets, and whilst stooping for this purpose she suddenly felt as if strangled. So perfect was this illusion that for some time she could scarcely divest herself of the belief that there was a ligature around her throat. At the same moment her face exhibited a remarkable change in colour which was immediately observed by the bystanders; her breathing became greatly embarrassed, and she felt an indescribable sense of suffocation, accompanied by an extreme degree of giddiness.

<sup>a</sup> Page 164.

<sup>b</sup> See Proceedings of the Pathological Society of Dublin, January 13th, 1849.



It was with difficulty that she made her way to bed, where she spent a wretched night, not venturing to lie down for a single moment, so great was her fear of suffocation.

Next morning, on seeing her for the first time, I ascertained that she was a married woman with five children; she had never suffered from syphilis, nor from rheumatism, nor had she ever taken mercury. She had been for the greater part of her life employed as a thorough servant and laundress, situations which required much bodily exertion; her health, however, had been excellent up to her forty-fourth year, when, without any very assignable cause, she began to suffer from slight dyspnoea and palpitation of the heart on straining or making any unusual exertion, such as walking quickly, or going up stairs. She had never suffered from cough, hemoptysis, fainting fits, or epilepsy; but of late years, on two or three occasions, her breathing had become greatly oppressed, and she then experienced immediate relief from a moderate venesection.

Notwithstanding these ailments, she continued at service until about six months ago, when she was compelled by increasing infirmity to relinquish her employment. The stooping posture which she was obliged to assume when washing was her chief difficulty, for it invariably produced puffiness of the eye-lids, a swollen condition of the face and hands, and some embarrassment of the breathing.

On seeing this woman my attention was at once arrested by her colour<sup>a</sup>; it was that of cyanosis; her face was of a deep plum colour; so were her neck, her shoulders, and the upper parts of her chest. The contrast was very remarkable between these parts and the lower portion of the trunk and inferior extremities, which were pale in colour, and almost bloodless in appearance. The eyes were prominent, they appeared as if starting out of the orbits, and in both of them there was extensive sub-conjunctival œdema. The face, both sides of the neck, and the upper and anterior parts of the chest, were much swollen and puffy, so that the clavicles were fairly buried in the swelling. The swollen parts afforded upon pressure neither the pitting of anasarca nor the crackling of emphysema; to the finger they felt soft and downy, just like an emphysematous lung.

The veins of the head, the neck, the upper extremities, and the upper part of the chest, were all enormously distended, and in many instances even varicose. The superficial jugulars (particularly the right) were turgid, and as large as the index finger. In a word, *all the tributaries of the superior vena cava*

<sup>a</sup> See Plate VI.









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were intensely congested, and all the soft parts from which these tributaries spring were swollen and discoloured, whilst *the tributaries of the inferior vena cava, and the corresponding soft parts*, were perfectly free from the slightest trace of congestion, tumefaction, or discoloration.

The arterial circulation was apparently unobstructed; in both the radial arteries, and also in both the femorals, the pulse was full, strong, and about 110 in frequency; it had, however, the jerking character usually associated with aortic valve inadequacy.

It is material to add, that this woman sat up in bed almost instinctively, for whenever she attempted to lie down for a moment her face assumed a deeper dye, and a sense of impending suffocation compelled her to resume the upright posture.

Percussion and auscultation showed that the left lung was everywhere healthy; so was the right lung *posteriorly*. In front, however, the chest sounded extensively dull on percussion; the dull region extended from the sternal third of the right clavicle *above*, to within one inch of the right nipple *below*; anteriorly it was bounded by the left margin of the sternum: the sternal extremities of the three superior right ribs, the corresponding costal cartilages, and intercostal spaces, and the upper half of the sternum, were consequently comprised in this dull region.

At the sternal extremity of the second rib, on the right side, and along the adjoining intercostal spaces to the sternum, a very remarkable, heaving impulse was communicated to the hand as well as to the stethoscope; this impulse was single and systolic; it was also plainly visible when viewed sideways, and vastly exceeded in point of strength the impulse communicated by the apex of the heart itself. An extremely distinct *frémissement*, and a remarkably loud whirring *bruit*, accompanied this abnormal impulse. To the ear the *bruit* conveyed the sensation of being situated very superficially within the chest: it was single and systolic, and had its maximum of intensity at the costal cartilage of the second rib; there was scarcely any part of the chest, either anteriorly or posteriorly, at which this *bruit* was not plainly audible; but its intensity diminished exactly in proportion to the distance from the costal cartilage of the second rib, right side, and thus it was impossible to doubt that the organic source of the murmur was there situated.

The region of the heart afforded no abnormal dulness; the rhythm of the heart appeared natural; but the loud whirring *bruit*, above described, was transmitted over the entire præcordial region, and rendered an accurate exploration of the heart's action difficult.

In the upper and anterior portion of the right lung the re-



spiratory murmur was absolutely inaudible, and from the right nipple to the lower margin of the chest in front it was likewise exceedingly obscure, although in that region the sound on percussion was natural. There were no *râles* audible over any part of the chest, but there was an occasional short cough, unattended with any expectoration.

Although the puffy and swollen condition of the soft parts rendered it a difficult matter to explore the deeper veins of the neck by the finger, yet by exerting a moderate amount of pressure over the course of the right subclavian and internal jugular veins, at a short distance above the clavicle, the "*purring tremor*" was plainly recognised; over the corresponding vessels at the *left* side of the neck this peculiar physical sign was absent.

April 23rd. The breathing appeared somewhat relieved by venesection to six ounces, practised the preceding day; the face was rather less congested; she had no sleep whatever; there was continued orthopnœa; the physical signs remained as before.

26th. She had been repeatedly leeches upon the upper part of the chest, since the date of the previous report, and each time with decided relief to her breathing; the capillary congestion had somewhat lessened; the sub-conjunctival œdema had disappeared; the physical signs were unaltered; there was still absolute orthopnœa; the stomach now, for the first time, became irritable, it rejected all kinds of aliment, yet there was no epigastric heat or tenderness.

29th. Her manner had suddenly changed; she was less intelligent; her answers were slow and stupid; her stomach was still irritable; she had dozed a good deal during the night, and raved incessantly. Late in the day she was seized with general convulsions; to the attendants it appeared to be an ordinary epileptic paroxysm; out of this she never rallied, and her death took place at nine o'clock in the evening.

*Post-mortem Examination twelve hours after death.*—*Head:* Scalp much congested and œdematous; veins of dura mater turgid; a considerable amount of serous effusion (but without any lymph) in the arachnoid sac. The veins of the cerebral hemispheres, especially in the neighbourhood of the superior longitudinal sinus, much congested. Large quantities of serum in the sub-arachnoid spaces and in the ventricles; the cerebral substance healthy, disclosing, however, when incised, a profusion of bloody dots.

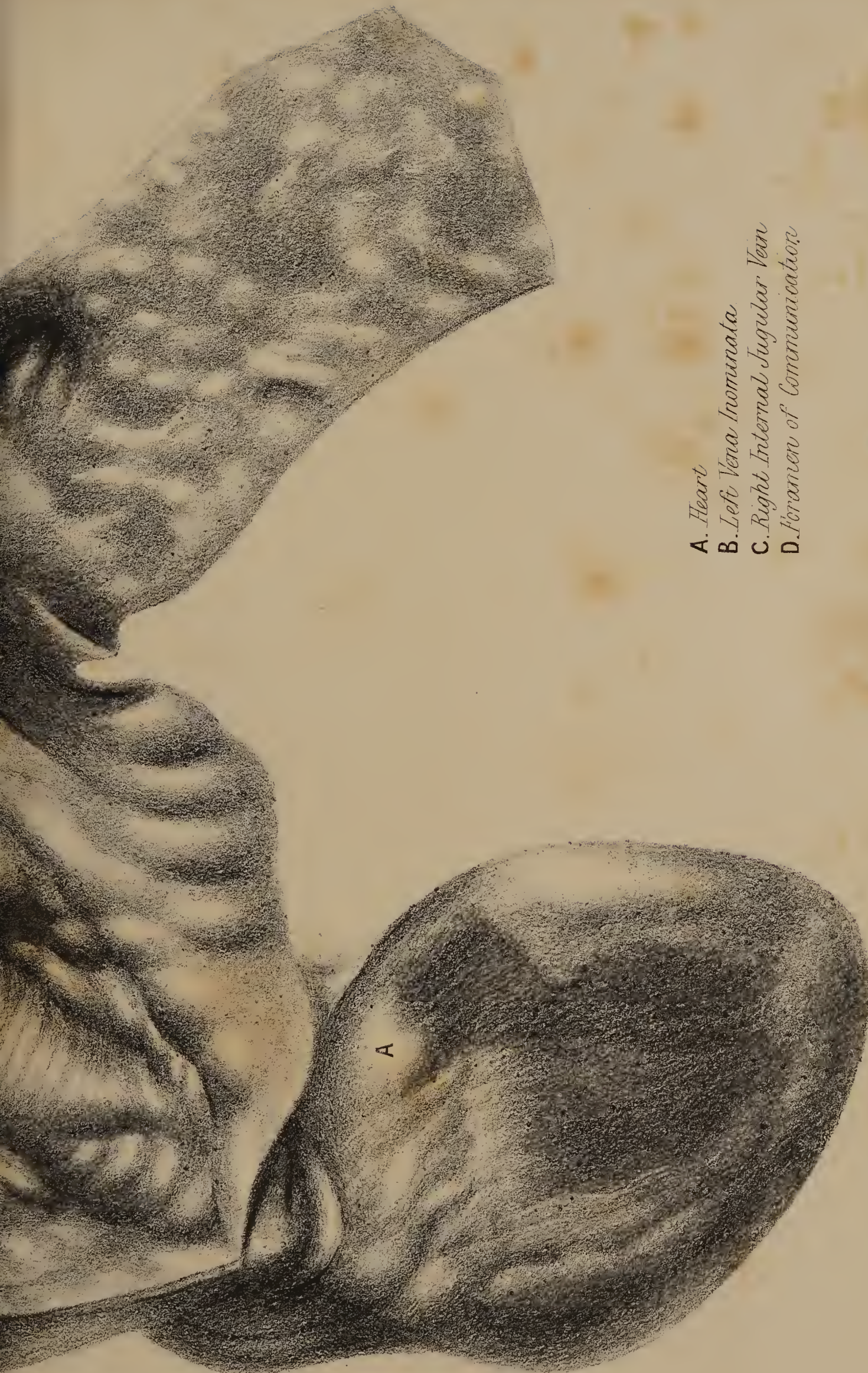
*Chest and Neck.*—The sub-cutaneous areolar tissue of the neck, the chest, and the upper extremities, anasarcaous; *the lower extremities perfectly free from the slightest œdema; ex-*











- A. Heart
- B. Left Vena Innominate
- C. Right Internal Jugular Vein
- D. Pericardium of Communication





treme congestion of the jugular and other veins of the neck, superficial as well as deep. The right internal jugular enlarged, so as almost to equal the small intestine in point of size, and distended with black blood. The left internal jugular, the subclavian, and the innominate veins, filled with black, firm, non-adherent coagula.

The substance of the lungs remarkably healthy; the mucous membrane lining the trachea and the bronchial tubes of both lungs very vascular, and of a vermillion hue; a small quantity of tenacious, gelatinous-looking mucus in the trachea and larger bronchi.

*Heart.*—A dessert-spoonful of serum in the cavity of the pericardium; heart absolutely healthy; all its chambers, its valves, and its muscular structure, perfectly normal.

*Aorta.*—Aorta enormously dilated<sup>a</sup>; the entire arch of the aorta, and about two inches of the descending or thoracic aorta were comprised in this dilatation, which formed a vast pouch of an oblong shape, presenting at the exterior all the appearance of a huge aneurismal tumour. This pouch filled up the mediastinum, and projected considerably, to the right of the sternum, into the right pleura, where it encroached extensively upon the root of the right lung, and upon the superior intercostal spaces. From the upper part of this pouch, the innominate, the left carotid, and the left subclavian arteries, arose; to the surface of this pouch the left vena innominate and the superior vena cava adhered. The left vena innominate, crossing from left to right, was so completely identified with the diseased aorta that all attempts to separate these vessels by dissection were fruitless. Along the line of contact the coats of these vessels were so perfectly amalgamated that they constituted conjointly but a single flimsy partition between the venous and the arterial blood. The right vena innominate and the descending cava were similarly united to the right side of the aortic pouch, and here a free communication had actually been established between the aorta and the vena cava, the intermediate partition having given way.

The left vena innominate and the superior cava *had undergone a considerable diminution in caliber at those parts of their course where they adhered to the aorta*, but lower down, where the cava receives the vena azygos, and debouches in the right auricle, it regained its ordinary dimensions; thus two fingers readily entered it from the cavity of the auricle; one finger traversed it with difficulty higher up at its amalgamation with

<sup>a</sup> See Plate VII.



the aorta, whilst still higher up, as already described in the neck, the great tributaries of the superior cava were found enormously dilated.

On cutting into the aneurismal pouch, it was found to be formed by a true dilatation of the aorta, all the coats of that vessel being perfect, although greatly diseased and thickly studded with atheromatous deposits. A large, soft, black coagulum filled this enormous pouch: on slitting up the pouch the coagulum readily turned out, there were no *laminated* coagula whatever. The orifice of communication with the vena cava came readily into view on the removal of the coagulum; it was oval in shape, with sharp, irregular edges, very unlike what might have been expected had the aperture been one of long standing. In size and shape it resembled the button-hole of a shirt; there was, however, a delicate frenum crossing it about the centre<sup>a</sup>.

In reflecting upon the history of this very remarkable case, it may be convenient to arrange the symptoms in two distinct classes,—the one referrible to the chronic disease of the aorta and the large adjacent venous trunks; the other expressive of the abnormal communication between the aorta and vena cava, which may be presumed to have occurred suddenly on the 21st of April, and to have ended fatally upon the 27th.

Extreme dilatation of the aorta, with the usual loss of elasticity in its coats, and marked constriction of the neighbouring venous trunks, were the principal *chronic* lesions present.

In circumference the dilated aorta measured at its widest part upwards of eleven inches; in length it measured nine. The load thus thrown upon the heart must have been enormous, and in this way accordingly there had been produced for a length of time a train of highly characteristic symptoms, such as dyspnœa and palpitation on any unusual exertion. With such an extraordinary amount of disease in the aorta it may appear wonderful that these symptoms should not have been more urgently severe, but the healthy state of the valvular apparatus of the heart, and the absence of any serious lesions of its walls or its cavities, afford a plausible explanation of this apparent anomaly.

The constrictions existing in the superior vena cava and in

<sup>a</sup> I have found but three cases on record similar to the above. The first of these was published anonymously in the *Lancet*, 1832-3, vol. ii. p. 666. The second appeared in the twenty-first volume of the *Dublin Journal of Medical Science*, first series, p. 444. To this case, related by Professor Law, reference has been made already. The third was published by Dr. J. Reid in the *Edinburgh Medical and Surgical Journal*, 1840. The first and third have been quoted at length by Mr. Thurnam: Dr. Law's case will well repay perusal.

the left vena innominata were also strongly expressed in this woman's history; the stooping posture which she was obliged of necessity to assume at her wash-tub was of late years certain to produce puffiness of the eyelids, a swollen condition of the face and hands, together with embarrassed breathing, *because* this position was unfavourable to the venous circulation, already permanently obstructed in the vicinity of the heart.

The diseased condition of the aorta had probably been of six years' growth, and accordingly the dilatation of this vessel had occurred so very gradually that all the neighbouring organs had accommodated themselves to its encroachments. The root of the right lung was so much overlapped by the aneurismal pouch, and the upper portion of this lung was so much displaced by it, that there was marked dulness on percussion, with nearly complete absence of the respiratory murmur over a considerable portion of the right side of the chest in front; and yet there was no cough, there was no hemoptysis, there was in fact nothing to indicate much pulmonary irritation, the dyspnœa and palpitation complained of being much more fairly attributable to the dilated artery and the constricted veins, than to the compressed lung. In all this we recognise the extraordinary powers of adaptation which the lung is known to display under extraneous pressure, so long as the pulmonary structure remains healthy, and the compressing force comes to be exerted gradually.

How long this state of things might have continued to be endured under favourable circumstances it is impossible to say. A very trifling accident deranged the balance of the circulation, and converted a state of comparative security into one of imminent peril. On the 21st of April an imprudent exertion on the part of this woman was followed by a sudden perforation of the partition which separated the venous from the arterial current. This untoward event occurred in the stooping posture, in which it may be conjectured that extreme congestion of the vena cava on the one hand, or an increased momentum of the arterial blood on the other, produced an unfortunate strain upon the intermediate septum. The effect was instantaneous; a sudden sense of strangulation, great embarrassment of the breathing, an extreme degree of giddiness, an indescribable dread of suffocation, absolute orthopnœa, and an extraordinary change in her colour, were the immediate consequences of this accident; extreme turgidity of all the tributaries of the superior cava, and a swollen, puffy, in short, a dropsical condition of all the areolar tissue from which those tributaries arise, quickly followed; and thus the prominent eye-ball and



the sub-conjunctival œdema, so remarkable next morning, are accounted for.

Notwithstanding the most assiduous efforts to relieve the venous congestion by means of local depletion frequently repeated, the brain soon showed that it could not bear with impunity such derangements of its circulation; its veins were proved by post-mortem examination to have been inordinately congested; possibly its arterial supply may have been defective; but be this as it may, an irritable state of the stomach, which nothing could allay, set in on the 26th, and was quickly followed by a sudden and remarkable alteration in her manner, a slowness and stupidity in her answers, with slight aberration during the day, and incessant raving during her sleep; finally, frightful and fatal convulsions, on the 27th April, left little room to doubt that the nervous centres had suffered irretrievably.

The diagnosis which I ventured to make in this case was "an aneurism of the aorta communicating with the superior cava." It was based upon the following considerations:—

1st. The congested condition of the entire tree (roots and trunk) of the superior vena cava, and the perfectly healthy condition of the corresponding tree of the inferior cava, showed that the organic source of the mischief was situated somewhere in the course of the trunk of the superior vena cava.

2nd. The extensive dulness on percussion in the upper part of the sternal region rendered it almost certain that there was a tumour of considerable size in the mediastinum.

3rd. The extraordinary heaving impulse communicated to the stethoscope, and even to the hand, all over the dull region, and the strength of this impulse, which was vastly greater than that afforded by the apex of the heart itself, appeared to show that this mediastinal tumour was aneurismal.

4th. The dulness over the superior costal cartilages and intercostal spaces of the right side of the chest in front, with the defective respiratory murmur in the upper part of the right lung anteriorly, rendered it probable that this aneurism had encroached upon the lung; the total absence of any symptoms of pulmonary irritation making against the supposition that there was any special disease either of the lung itself or of the pleura.

5th. The perfect freedom of the circulation in the carotids and the subclavians made it likely that the aorta itself, and not one of its three great branches, was the source of this aneurism.

6th. The peculiar whirring *bruit* at once suggested the

idea of an abnormal communication between a vein and an artery, for it was a whirr (there is no more expressive term) such as I had never heard before, except in cases of the ordinary traumatic varicose aneurism, or the traumatic aneurismal varix. The site at which this *bruit* was most intensely audible, viz. at the costal cartilage of the second rib upon the right side, and its seemingly superficial source within the chest forbade the notion of its originating in any valvular disease of the heart; and it certainly sounded very unlike any ordinary aneurismal *bruit*, or even any anemic *bruit*.

7th. The suddenness with which the distressing symptoms had set in, but above all the purring tremor observed to the right of the sternum anteriorly, and also *along the course of the great venous trunks in the neck*, afforded additional evidence, all but conclusive, of the nature of the disease.

8th. Even the pulse was characteristic, for its "peculiar jerking feel" depended upon the imperfect distention of the arteries which resulted from the passage of a portion of the aortic blood into the vena cava through the abnormal orifice. A precisely similar condition of the arteries, although arising from a totally different cause, produces the very same sort of pulse in permanent patency of the aortic valves, the disease so admirably described by Dr. Corrigan.

Most observers have agreed in describing the *bruit* heard in cases of varicose aneurism as a *continuous* murmur, louder doubtless during the systole of the heart, and somewhat more feeble subsequently, but nevertheless *continuous*. Mr. Thurnam has even stated that "the intensity and continuousness of the murmur will, probably, altogether distinguish it from any that is heard in ordinary cases of aneurism or valvular disease of the heart." Now it deserves to be particularly mentioned that in the case above detailed the murmur was distinctly systolic, and systolic *only*; *continuousness* can therefore no longer be considered an essential characteristic of the murmur accompanying varicose aneurisms.

Mr. Thurnam has given the following explanation of the *continuousness* of the murmur in varicose aneurisms:

"As a consequence of the superior force of the left ventricle, the arterial blood is, doubtless, propelled through the varicose orifice, and so produces the murmur. During the systole of the heart the current through the orifice is the strongest, and the sound consequently is then the loudest; during the diastole, in consequence of the elastic re-action of the arterial system on its contained blood, a less powerful current is propelled through the opening, and at that time a



somewhat weaker murmur is heard. This re-action of the arteries, however, is in operation not only during the diastole, but also during the interval, and in fact until it is overcome by the succeeding ventricular systole; consequently, though the current is stronger at the commencement of this re-action and synchronously with the diastole, yet it is also continued during the interval. Hence the murmur is a continuous one, it being present, though much weaker, during the interval between the diastole and the succeeding systole."

In the case of Anne Flynn the extreme disease of the aorta had destroyed its elasticity, so that there was no "re-action of the artery upon its contained blood." The conditions necessary to the production of the second and weaker portion of the murmur were thus unfulfilled, and the murmur was therefore *not continuous*.

The remarkable difference observable in the symptoms, the progress, and the result of the ordinary traumatic varicose aneurisms of the extremities, and the spontaneous varicose aneurisms of the aorta, is a subject of the deepest interest. In the former class of cases it may be stated, as the general rule, that little danger is to be apprehended, whereas in the *latter*, a fatal result, and that speedily, is almost certain to occur.

In the traumatic varicose aneurisms of the extremities there are seldom the distended and varicose state of the veins distal to the orifice of communication, the dropsical condition of the soft parts, and the extreme dyspnœa so painfully portrayed in the case before us.

It has been said in explanation, that in the traumatic varicose aneurisms of the extremities there are so many collateral venous channels, that the obstruction caused by the influx of the arterial current into any one of them, is immediately counteracted by the freedom of circulation in the others, whereas the superior vena cava has no such collateral channels for its relief.

In addition to the above explanation, we ought, I think, to bear in mind, that in the *spontaneous* varicose aneurism, the vein, *previous to its perforation*, has been compressed, obstructed, and sometimes even strictured by the pressure of the aneurismal tumour, and thus the fatal venous congestion which a mere accidental communication between a healthy artery and its accompanying vein would fail to produce, readily enough ensues when long-continued pressure upon the vein has preceded.

In the traumatic varicose aneurism there is a *healthy* artery in communication with a *healthy*, although a dilated, vein. In

the spontaneous varicose aneurism there is an *aneurismal* artery in communication with a compressed or even a morbidly constricted vein; and under such circumstances it may be no easy task to assign to each of these causes its proper share in the production of the fatal issue. Witness the case of Anne Flynn.

Mr. Thurnam has pointed out another source of peril in the spontaneous varicose aneurisms of the aorta, not found in the traumatic varicose aneurisms of the extremities. The arterial blood, which is constantly passing in a large stream into the vein, soon comes to circulate along with the venous blood through the lungs, acting as a stimulant and an irritant to the pulmonary structures, and hence the cough, the dyspnœa, the blood-tinged expectoration, and the pulmonary congestion, which such cases not unfrequently exhibit. In the traumatic varicose aneurisms of the extremities, on the contrary, the quantity of arterial blood passing into the vein is small, owing to the limited size of the vessels implicated, and its effects upon the pulmonary organs are but trifling in consequence of the great distance from the lungs at which the intermixture takes place.

ART X.—*Contributions to Clinical Surgery and Medicine.* By WILLIAM HARGRAVE, M.B., President of, and Professor of Surgery to, the Royal College of Surgeons of Ireland; Surgeon to the City of Dublin Hospital, &c.

THE following cases, as bearing on some practical points, may not be altogether devoid of interest to some members of the profession, and are published with the view of confirming or modifying practical indications pursued in their treatment. As we are engaged in a common cause,—the advancement and improvement of our profession, if I can add any suggestive precept to obtain in any way a step in the above direction, I am amply repaid for my exertions in so deserving an object.

CASE I.—*Luxation of the right Humerus into the Axilla, and Fracture immediately above the Condyles.*

William B., a painter, aged 42, was admitted into the City of Dublin Hospital, June 3rd, 1853. He fell from a height of thirty-three feet, dislocated his right humerus high up into the axilla, fractured the same bone immediately above the condyles, and had most extensive contusion and sanguineous effusion of the leg and foot of the same side, the sole of which



was so distended with effused fluids as to render the hollow of its arch almost obliterated. This appearance was well seen when the injured foot was contrasted with the sound one.

He was a tall and powerfully-made man. On admission, he complained of intense pain about the shoulder and in the axilla, extending down the arm, fore-arm, and to the little finger. The symptoms both of the luxation and fracture were well marked; an attempt made to coapt the last injury failed to accomplish it.

The line of practice in this case consisted in applying splints and bandages on the unreduced fracture and arm; the lax and extending appliances were next arranged to the arm upon the splints and the bandages above the fracture; the scapula was then secured by a bandage, and confided to the care of assistants. Extension was now commenced and continued for some time, when the head of the bone was found to be dislodged from its situation, and was soon restored to its natural cavity. Contemporaneous with the reduction being effected, all pain of the shoulder, axilla, arm, fore-arm, and little finger ceased, and I was agreeably surprised to experience the greatest facility in setting the fracture and maintaining it in its proper situation, though prior to the reduction of the humerus it could not be brought into its natural position, principally from the action of the triceps extensor muscle.

The subsequent treatment consisted in measures to relieve the effects of the contusion and to expedite the absorption of the effused blood. He was discharged from hospital July 7th, with the motions of the fore-arm perfect for every useful purpose.

It had been generally taught in complicated injuries of this kind now detailed, and laid down by Petit, to allow the fracture to unite before the attempt at reduction of the luxation was made, and then to undertake the reduction. Such a proceeding, however, is not the most eligible. From the success of this case, also of one under the care of my former colleague, Mr. Orr, in this hospital, and a few reported in different medical journals, the rule should be, in the first instance to arrange the fracture in a temporary manner, and then endeavour to reduce the dislocation, which can be much facilitated by placing the patient under the influence of chloroform<sup>a</sup>. If

<sup>a</sup> Referring to the use of this agent, I may here observe that, during the present summer, I had nearly lost a patient under its use. A young man suffering from acute strangulated inguinal hernia had inhaled not more than one drachm and a half, by measure, of chloroform when he was completely under its influence, and maintained in that state with scarcely any additional inhalation: the taxis completely

the reduction succeeds, the case is thus rendered more simple, and more likely to terminate favourably; but should the attempt thus made fail, the surgeon has then nothing to tax himself with, and must meet this complication in the most skilful way he can, always forewarning his patient of the extreme complexity of his case, and perhaps unfavourable issue of the accident.

If the contrary practice is followed, viz., first attending to the fracture, allowing it to unite, and then attempting the reduction of the dislocation, we have to encounter what may be considered an old unreduced luxation, and may be baffled in our efforts, or perhaps add to the complication by unintentionally re-fracturing the bone. In this special case such was the intensity of the pain the man experienced from the effects of pressure upon the brachial plexus, that the reduction of the luxation was imperiously required.

Sir Astley Cooper was the first surgeon to advise the endeavour to reduce the luxation and then attend to the fracture; I might add, from theory, as in his treatise on Dislocations and Fractures, this precept is not supported by any case, while every other rule of practice in it is supported by reference to cases. This patient called on me on the 6th of August last, when he had recovered the perfect power of extending and flexing his fore-arm.

#### CASE II.—*Compound and Comminuted Fracture of the Lower Jaw.*

Michael M'D., aged 42, was admitted into the City of Dublin Hospital June 3, 1853, with a compound and commi-

failed: and it is not the only case in which I have witnessed the inutility of chloroform as an assistant to the taxis. This young man, three different times, was so collapsed that neither the cold dash, decidedly and energetically applied, nor the use of stimulants, nor insufflation by a most zealous pupil, Mr. Taylor, had any permanent effect in rallying him from the perilous condition he was placed in; the agency of cold air could not be had, the evening was so calm and close. In this impending state of dissolution, *no pulse at the wrist, respiration completely arrested* for a minute, perhaps more, we were compelled to plunge needles into the situation of the diaphragm and scalenus muscles, and then have recourse to galvanism. Happily, by this treatment we prevented another instance of unintentional death from chloroform, and a coroner's inquest. But for galvanism this patient was lost, and the case should impress upon all the imperative necessity of having every effective means ready to counteract the injurious action of such an uncertain agent as chloroform. In conversation with an American physician who visited the hospital in the month of July, amongst other topics I happened to speak of chloroform, and the hard and anxious task imposed on me to save this lad's life from its effects,—he mentioned that he had witnessed the death of one of his patients by the administration of it, he giving an unwilling assent to its use by inhalation in a case of delirium tremens; and observed that he should never sanction its employment again; also observing that its use was now given up in Philadelphia.



nuted fracture of the lower jaw, caused by a fall from a height of about thirty-two feet; it was fractured in the symphysis menti; the two left incisors and the canine tooth of that side were detached from the general structure of the bone with the corresponding alveolar portion of it, so loose as almost to tempt their removal, and were upon a much higher level than the corresponding teeth on the opposite side. The left part of the body of the bone was also broken a little anterior to the insertion of the masseter muscle; these injuries communicated internally with the mouth near the symphysis, and externally below the chin to the left of the mesial line; there was smart hemorrhage from both wounds; superadded to these injuries there were extensive ecchymoses in both temporal regions, also on the right and inferior part of the neck, and considerable effusion of blood on the left arm and fore-arm.

The effusion of blood and tumefaction about the fractured portions of the jaw were so great, also the hemorrhage, that for the first few days little more was attempted than to retain the parts *in situ* by a well-applied *capistrum capitis* bandage, and to restrain the hemorrhage by a decoction of matico with the tincture, used as a wash and gargle for the mouth.

Four days after admission the tumefaction about the jaw was so much diminished as to permit the parts to be supported by a splint of gutta percha, made in the form of the capistrum bandage; it was useless to attempt to confine the different fractured portions in coaptation by ligatures, either metallic or of other material, as there was no fulcrum to attach them to, so that I was compelled to trust to the bandages so much in use for these accidents. It was observed, after a few days' use of the gutta percha splint, that it had the effect of compressing the fractured portions of the bone towards the mesial line, and in this manner adding to and maintaining the deformity. To remedy this imperfection I had a splint or shoe of gutta percha made by modelling it upon the jaw of a healthy individual, one of the pupils, of such a form as to support the bone laterally, and for the entire of its extent from the chin to the angles, and a masseteric piece which was as deep as the ramus of the jaw; when it had cooled, the shape was preserved in the most perfect manner; it was then lined and padded with lint, and tapes attached to it, so as to secure it when *in situ* above the head, and behind the occiput and neck. This splint so made was then applied, and answered every purpose required; the bone resting cushioned upon it in the most easy manner, allowing and maintaining the coaptation of the different portions of the fracture in the most perfect adjustment,

and causing no displacement towards the mesial line. The wound under the chin healed up, but after the lapse of seventeen days an abscess formed in the situation of it, broke, and discharged a large quantity of matter, in all probability caused by some small detached portion of the bone.

The patient was dismissed from hospital August 1, with a small fistulous orifice still open, the bone consolidated, and the small portion of it, which contained the incisors and canine of the left side, also becoming more firm, and about two lines above the level of the rest of the teeth.

In many fractures of the lower jaw I have witnessed some annoyance experienced by over care and anxiety of the surgeon to carry out in too decided a way the three principles in managing a fracture: extension, counter-extension, and coaptation,—especially the last. I may say that I have seen the parts rendered rebellious by over care to maintain them in position by retentive means, such as by ligatures of various kinds, and by metallic splints, as after the lapse of a few hours all those parts, which required much time and attention well directed to keep them in relation, were again displaced, and the treatment so commenced had to be finally abandoned; hence meddlesome surgery should be discontinued in such cases.

Surgeons are also frequently over anxious to prevent deformity; this does not often follow injuries of the jaw, not even when a portion of a bone exfoliates. What little deformity succeeds to the operations in which portions or even one-half of the jaw have been removed!

### CASE III.—*Separation of the Symphysis Menti, and no Displacement.*

John S., aged 33, a groom, was admitted into hospital January 5th, 1853, with extensive contusion and effusion of blood into the left thigh, which measured an inch and a half in circumference more than the right one; he also had a trifling contusion of the face: the accident was caused by a horse and car falling upon him.

The contusion and effusion of blood were quickly being removed by the agency of smart purgatives and tartar emetic, also cold applications to the limb,—leeching and venesection being prohibited, in consequence of erysipelatous inflammation of a bad character being in the house,—when the man complained of much pain referrible to the face and lower jaw towards the chin, and some difficulty of opening his mouth, also of deglutition; he was more distressed about these symptoms



than about the condition of his thigh. There was nothing referrible to the inferior maxilla to lead to the conclusion that there was either a fracture or any other injury of the bone, except the pain; his teeth in both jaws were perfect and regular, indicating no displacement whatever. No external examination detected any fracture; still, as the man complained of more than ordinary pain of the bone towards its anterior part, I instituted a very careful examination. By seizing the lateral halves of the jaw and abducting them from each other, crepitus was evident in the symphysis menti, and irregularity in their relations was readily produced. When the force was discontinued by which they were abducted, the halves fell into regular juxtaposition, and the incisors presented their natural and even relations, and the jaw its normal appearance. The jaw was maintained *in situ* by a capistrum bandage, with great relief to him. He left the hospital the day following, and did not return to it.

This is the only instance of separation or fracture in the symphysis menti I have met with, in which there was not present some deformity and irregularity in the relations of the incisor teeth, one set being on a plane lower than the other; they could, however, be easily restored to their natural position by manipulation, and so maintained in it;—except in one instance, in which I encountered extreme difficulty in keeping the displaced parts in juxtaposition for any length of time, though every available appliance was employed, with the use of the ligatures and metallic splint: the case was one of compound fracture of the jaw in the symphysis, with other injuries of the head, which caused diffuse inflammation, extending from the base of the cranium to the throat, and terminated in death.

I may add, that in the Number of this Journal for May of the present year is contained the account of a new method, proposed by M. Robert, of Paris, for the treatment of fractures of the alveolar portion of the lower jaw, which is deserving of attention.

CASE IV.—*Severe Contusion of the left Leg above the external Ankle, with a well-marked and peculiar symptom simulating Fracture.*

John S., aged 21, a labourer, was admitted into the City of Dublin Hospital January 17, 1853, suffering from severe contusion and extensive ecchymosis of the left leg, immediately above and around the external ankle, caused by a piece of timber falling on the limb.

This injury presented all the characters of a minutely comminuted fracture of the fibula caused by direct violence; in the centre of the injury there was a considerable effusion of blood; when examined carefully, in the fundus of it were apparently loose comminuted fragments of bone, while in the circumference, particularly in relation to the malleolus, and the part of the fibula above the injury, there was a hard, firm, and osseous circumscribed margin of some lines in breadth. This lesion gave in the most marked manner all the characters of Pott's bloody tumour of the scalp. So well indicated was this symptom, that it was only by the most attentive examination that a correct diagnosis was arrived at,—rest, cold lotions, and, finally, a starch bandage, set all to rights.

#### MALAPERTI'S TREATMENT FOR THE DISPERSION OF BUBOES.

It is beneficial for us occasionally to review and reflect upon our practice, and to inquire if any particular point bears the test of continued experience, so that it should be persevered in, changed *in toto*, or modified. I have been thus induced to examine into the results of Malaperti's treatment for the dispersion of buboes, so as to prevent them from bursting, or requiring to be opened by the surgeon.

In the Dublin Medical Press, vol. xv., p. 263<sup>a</sup>, I have mentioned the results of this treatment, and, from more extensive experience, I am more convinced of its practical value, and find it still of great advantage even in those instances in which it fails to disperse the bubo after matter has formed, for I have found it to expedite healing after the bubo has been opened, thus curtailing a prolonged convalescence, and preventing the risk of any phagadænic complication in the edges of the ulcer. I would also direct the attention of the junior members of the profession, when called to open abscesses in the groin, to make the incision always *at right angles* to Poupart's ligament.

During the past summer a Swedish surgeon, when visiting the City of Dublin Hospital, inquired in a very particular manner if Malaperti's treatment was sufficient to disperse syphilitic buboes, which it undoubtedly is capable of doing. The medical treatment, combined with the local one, as indicated by me in the communication above referred to, makes "assurance doubly sure" in the management of these abscesses.

<sup>a</sup> On the Repellant Treatment of Buboes, illustrated by Cases.



## GUNSHOT WOUNDS.

It is still an unsettled question in this department of surgery, what is the character and appearance of the entrance and exit of a *spherical* ball.

Guthrie, Blandin, Dupuytren, and Malgaigne, state that the entrance is somewhat larger than the exit; in my limited experience of these accidents I agree with those authorities; and in some cases have always seen the entrance present a circular depression, while in some few of them the exit exhibited as clean an orifice—rather slit—as if made by the most perfect edged scalpel: in one most remarkable case, in which the gentleman fell in a duel, the ball traversed the thorax, and made its exit at the apex of the left axilla, which presented a circular depression, with the circumference slightly ecchymosed, so as to lead to the impression that it was the entrance, which, from the position of the parties, was physically impossible.

M. Roux, on this question of surgery, considers that there is no absolute rule, as much depends on the velocity of the missile, its force, distance, and direction.

As a new missile has been of late years introduced into military operations, the conical ball,—that used with the minie rifle,—does its entrance into the body form a differently shaped orifice from that of the spherical ball? From a single instance which came under my observation in hospital this summer, it presented more the character of what I may term a clean lacerated slit, about one and a half inch long. The case was as follows:

A lad named Wall, aged 17, was sent into hospital, July 27th, with a wound on the dorsum of the foot, a little posterior to the fourth and fifth toes, extending across the metatarsal space between these two bones, the centre point of the injury corresponding to that of the interosseous space. The injury had been most judiciously treated, and the lad mentioned that the wound had been carefully probed, but no ball found; he complained of no pain, except in the sole of the foot, a little posterior to the ball of the great toe; there seemed to be a slight fulness in this situation, but not sufficient to justify the immediate cutting down upon such insufficient data in search of a foreign body which might not be found, or was not there: it was also possible that the ball might have been rejected by the elasticity of the metatarsal bones, it having impinged on them; or it was possible it might have penetrated and passed through the interosseous metatarsal space, and lodged in the foot.

Acting partly under such an impression, I did not attempt to probe through such a tortuous channel.

The treatment consisted in the action of the water battery on the foot, and the administration of the anti-tetanic pile<sup>a</sup>; in two or three days he was free from all distressing sensations, the fulness and uneasiness near the ball of the toe having subsided.

On resigning this case to my colleague, Mr. Tufnell, on the 1st of August, I was not satisfied either as to the presence or the absence of the ball, but acted on the *médecine expectante* of the French. On the 10th of the month he extracted it from behind the great toe, where it was lodged, perhaps, from the time of the accident. It proved to be of the conical form, or the minie rifle-ball. Had it traversed the foot, what would have been the form and appearance of the exit?

ART. XI.—*Observations on Excision of the Lower Jaw, illustrated by the Report of a Case in which the Operation was performed.* By SAMUEL G. WILMOT, Surgeon to Steevens' Hospital; Lecturer on Surgery in the Carmichael School of Medicine, &c. &c.

BOLD as the operation of excision of the lower jaw may appear, experience proves it to be not only comparatively easy of execution, but highly successful in its issue. Probability of success is the grand circumstance that recommends any operation, and it is by the measure of success attending it that the advantages of the operation are to be weighed, and its relative superiority established. But every operation is to be considered in a double point of view as regards success:—first, the certainty with which its object can be executed, viz., complete removal of disease; secondly, the security of recovery from its effects. The operation under notice particularly urges its claims upon the surgeon from the possession of this twofold advantage. The statistical returns of excision of the lower jaw, as it has been performed for the last forty years in Great Britain, on the Continent, and in America, are such as to entitle it to a high place in the estimation of the operator, and to afford good encouragement to him who undertakes it. A

<sup>a</sup> Consisting of a grain of calomel, one or two grains of James' powder, one grain of aloes, one of ipecacuanha, and an eighth or a quarter of a grain of opium, every fourth hour. The formula for this pill I got from Mr. Peile, and I have found it a most valuable medicine in lacerated, contused, and punctured wounds.



successful termination, however, is not the only circumstance which invests this operation with a superiority over many others:—the small amount of hemorrhage that attends it, its freedom from those evil consequences so apt to supervene upon most operations, the facility with which the reparative processes are effected, and the little deformity that remains afterwards,—are striking particulars, and give it an advantage over almost any other operation of equal magnitude and importance.

Although excision of the lower jaw is an achievement of modern surgery, yet owing to the zeal by which surgeons of different countries have endeavoured to obtain for some distinguished member of their own body the merit of having been the first to perform the operation, the exact date of its origin, and its early progress, cannot be easily learned with accuracy. The French claim for Dupuytren the merit of having been the first to accomplish this great surgical undertaking,—a claim which is enunciated in the following enthusiastic language in the *Leçons Orales de Clinique Chirurgicale*:—"Quel nom donner à l'homme auquel l'humanité est redevable d'un si grand bienfait? Or hâtons-nous de le proclamer hautement ici, à la gloire de son auteur, à la gloire de la chirurgie Française: c'est en France, c'est à Paris, par notre célèbre professeur M. Dupuytren, qu' a été conçue et exécutée pour la première fois, en 1812, cette admirable opération." The Americans insist that the priority is due to Dr. Mott; while some British surgeons, upon less substantial grounds, from the absence of recorded evidence, award to Mr. White, of Westminster Hospital, that distinguished merit. We shall not here lose time in the endeavour to explore the history of this operation in order to establish unimportant points, or to reconcile conflicting statements,—it is sufficient to observe, that, as far as can be collected from published records, Dr. Deadrick, of Tennessee, was, in the year 1810, the first who removed a portion of the lower maxilla.

The grand epoch in the history of this operation, however, is the year 1812, when Dupuytren removed a large portion of the bone in Paris. After this period the operation was repeated frequently by that distinguished surgeon, and was performed by others in different countries, but by none more especially than by Mr. Cusack of this city, who, in the year 1825, and subsequently, executed the operation in several instances with unparalleled success. So early as the year 1818 Sir Philip Crampton excised a small portion of the lower maxilla; and in 1824 he removed two-thirds of the bone, so that, unless the report of Mr. White's case be correct, Sir Phi-

lip Crampton must have been the first who performed this operation in Great Britain,—a merit which is enhanced by his not having been aware of what had been previously accomplished by Dupuytren, Graafe, and Mott.

The operations, however, which were first performed upon the lower jaw by Dupuytren and others left the articulation untouched: the great achievement was to exarticulate the bone. The particulars connected with this advance in the operation are also difficult to be ascertained in consequence of discrepant statements. To Mott is very generally conceded the priority of performing exarticulation of the lower jaw, but I believe Graafe anticipated him by a year. Graafe, it seems, removed one-half of the lower jaw at the articulation in the year 1821, whereas Mott's case of exarticulation bears date May, 1822. In South's edition of "*Chelius' Surgery*" a case is given in which Mr. White actually "disarticulated the lower jaw bone from its socket five years before Graafe, and six years previous to Mott,"—so far back as the year 1816. As this case, however, had not been previously published, the merit due to Graafe and Mott is not in the least degree diminished thereby. The first surgeon who accomplished exarticulation of the lower maxilla in Great Britain was Mr. Cusack<sup>a</sup>; in the years 1825–26 he performed the operation four times in succession. An account of these cases is to be found in the fourth volume of the *Dublin Hospital Reports*.

The fear of hemorrhage appears to have rendered surgeons very timid in removing the jaw at the articulation; and certainly when we reflect on the close proximity of the internal maxillary and external carotid arteries to the condyle, there is little surprise that such should have been the case at first. So impressed were Graafe and Mott with the risk of hemorrhage in the performance of the operation, that they recommend, as a preliminary step, the application of a ligature to the common carotid. Nothing, however, can be more absurd than adopting such a procedure, since ligature of that vessel beforehand, while it could prove no bar against hemorrhage, must greatly diminish the chance of the patient's recovery, and seriously complicate the case. Mr. Syme lays down the following objections against the plan of previously tying the carotid artery:—"1. It is unnecessary, since the only arteries which must and ought to be cut are the facial, some of its

<sup>a</sup> According to the statement in South's *Surgery*, above alluded to, the honour of priority must, of course, be granted to Mr. White; but as his case was not published for so many years, it does not detract from Mr. Cusack's merit, no more than from that of the two other distinguished surgeons mentioned in the text.



branches, and some branches of the temporal. 2. It must exhaust the patient, especially when the tumour throws an obstacle in the way, as in Penman's case, where there was hardly any space left for applying a ligature. Thus in one of Dr. Mott's cases the patient was so much fatigued as to require the delay of a day after the artery was tied. 3. It increases the danger, since it cannot be denied that there is always more or less risk of hemorrhage on the separation of a ligature from so large a vessel as the carotid. 4. It is of no use, since the anastomotic communications are so free that a ligature of the trunk is not sufficient to arrest the flow of blood from its branches. Thus, in Dr. Mott's case above-mentioned, the arteries which were cut during the operation required to be tied; and I have heard of a case where the operator, attempting to remove a tumour of the upper jaw, tied both carotids, and was still obliged to desist by the bleeding. 5. Any good effect that can be expected from tying the trunk may be obtained by compressing it after the integuments lying over it have been dissected off or divided." But in fact the danger of wounding either the internal maxillary or external carotid artery in exarticulating the jaw is not so great as at first sight would appear: a careful study of the anatomical relations of the articulation will demonstrate that the condyle can be removed without danger to either vessel, if only due care be taken: "Neither of these vessels," as Mr. Cusack has observed, "is in immediate contact with the jaw."

The following case, in which I recently operated, affords an example of disease of the jaw demanding excision, and will serve to illustrate the method of performing the operation. In it, however, the bone was not removed at the articulation, such a proceeding not being deemed necessary; it was divided through the symphysis, and midway between the angle and condyle.

Mary Anne M'Loughlin, aged 34, was admitted into Steevens' Hospital on the 10th May, 1853, presenting a tumour occupying the right side of the lower maxilla, and extending from within a few lines of the symphysis to its angle. Upon examination, it became obvious that this tumour was an enlargement of the bone from a growth originating within the cancelli, and which had expanded its walls. The substance within had, as is usual, grown chiefly upwards through the alveolar cavities, from which the teeth had previously fallen out, and as it increased, had caused absorption of the osseous tissue, until nothing but a partial thin shell of bone remained, thereby accounting for the soft spongy feel the tumour yielded

on pressure. Laterally the enlargement extended considerably; internally it bulged into the mouth beyond the mesial line, pushing the tongue to the opposite side; externally it formed a large prominence, over which the skin was tightly stretched. The surface of the tumour was flat, and was formed of a soft granular mass, of a reddish colour, being the growth which had sprung from the cancelli and now occupied the previous situation of the alveoli. On the outside of the cheek there was an elevated point, over and about which, for some extent, the skin was red and inflamed, threatening, as it were, to ulcerate; this spot conveyed a very deceptive feeling of fluctuation. Almost all the teeth had disappeared; only two or three remained in front, and these were perfectly loose.

The patient could give but a very imperfect account of the origin and progress of the disease. She stated that, to the best of her recollection, it first commenced two years ago as a "small lump" on the right side of the lower maxilla, and which was quite perceptible within the mouth, and that she attributed it to the pre-existence of an unsound tooth. She said that at first she experienced very little pain or inconvenience from the tumour, but that latterly the pain had become so severe as to deprive her of sleep, and that recently she had lost flesh and strength, and felt her health generally much impaired.

The extent of the disease having been accurately ascertained, and the feasibility of excision of the bone established, the plan of the operation was laid down, and it was carried out in the following manner:—The patient being seated on a chair, chloroform was administered so as merely to blunt sensibility during the first period of the operation—the incisions through the skin. Its further employment was then abandoned, upon the ground of the double danger of inhaling it in the sitting posture and of any blood trickling into the larynx. The two front incisor teeth being now drawn, the head was firmly supported, and a perpendicular incision was made through the lower lip, a line or two to the left side of the symphysis, commencing below the red border so as to leave it intact, and terminating beneath the chin. From the termination of this incision another was carried backwards along the outer side of the tumour, corresponding with the lower border of the bone, and ending at the angle. From this a third incision was then made to run upwards along the posterior edge of the ascending ramus as far as the lobe of the ear. The flap thus formed was rapidly dissected up, and the mucous membrane of the cheek was freely slit. A fine hand-saw was now applied exactly to



the symphysis, and was worked until the bone was deeply grooved. Its division was then completed by means of a strong forceps, the knife having been previously introduced behind the bone, to allow of the easy insertion of the inner blade. The next part of the operation was to divide the ascending ramus midway between the angle and condyle; and this was done by cutting through the masseter muscle down to the bone, and applying the saw and forceps, as was done in front. The bone being now completely separated, the tumour was dragged downwards and outwards, so as to put the parts attached to it as much on the stretch as possible, and to withdraw it from its vascular relations. The attachments were then divided cautiously, care being taken to keep the edge of the knife close to the tumour. The hemorrhage during the operation was remarkably slight, the only vessels requiring ligature being the facial and a small branch in the upper part of the wound; the former was not divided until the last stroke of the knife was made which finally separated the tumour, when it was immediately seized and tied.

A couple of dossils of lint, to each of which a thread of silk was attached, were then placed along the bottom of the wound beneath the border of the tongue, and the flap of skin was laid down, and when the patient was replaced in bed the cut edges were adjusted as evenly as possible, by means partly of the twisted and partly of the interrupted suture, with the necessary adjuncts of adhesive plaster, a pad of lint, and a bandage.

It is unnecessary to enter into the minute details of this case as it advanced daily towards recovery; it is sufficient to state that its course was marked by a striking exemption from any constitutional disturbance, and by a remarkable activity in the reparative process. In three weeks after the operation the wound was completely healed, with the exception of a small opening in the centre, through which the saliva and the fluids escaped, and the ligamentous band which was to supply the place of the bone was rapidly forming. In three weeks more she was discharged from the hospital, no remains of the operation existing save a small fistulous opening. The ligamentous band had assumed a cartilaginous consistence, constituting a firm border; she could eat bread and substances possessing considerable solidity, drink freely, and articulate with surprising accuracy; her health, too, had greatly improved.

The lint which had been inserted into the wound was removed in twenty-four hours after the operation, its withdrawal

being easy, owing to its saturation with saliva, and on the fourth day all the needles and sutures had been taken away, the former having been removed in forty-eight hours. By far the greatest portion of the wound healed by the first intention; the central part only suppurated, where the skin from being thin and puckered did not admit of perfect coaptation, and where, from the constant passing of the fluids from the mouth through it, union by adhesion was rendered impossible. The only inconvenience complained of by the patient was the want of proper adaptation of the portion of the lower jaw that remained to the corresponding side of the upper one, which resulted from the action of the muscles drawing the anterior extremity of the bone inwards or towards the right side.

This woman was heard of four months after the operation. No return of the disease had manifested itself; she was in the enjoyment of excellent health, and seemed to experience very little inconvenience from the loss she had sustained.

*Examination of Tumour.*—Upon slitting the tumour longitudinally through the centre it was found composed of a soft yielding structure (possessing, however, considerable resistance to the pressure of the finger), infiltrated with serum, of a whitish colour for the most part, studded with small reddish dots, and interspersed with spiculæ of bone. The circumference was formed of a very thin shell of bone, through which the knife cut with ease; it was deficient in some spots, particularly at the place which had formed the prominence on the cheek; here the bone had been completely absorbed, allowing the substance within to protrude. It was obvious that this shell of bone, which thus lay spread out around the tumour, was the outer and inner wall of the maxilla, which had become expanded into a thin plate by the pressure of the growth which sprang from the cancelli.

Upon looking closely into the diseased mass it appeared to be of a fibro-cellular character, resembling a honeycomb structure condensed; the areolæ were superficial, and in each lay a small roundish vascular body attached by a pedicle; these constituted the coloured dots which were scattered over the cut surface. This morbid specimen appeared to me to differ from any variety of osteo-sarcomatous tumour I had before seen; nor am I able to discover in books any description of an exactly similar disease in the lower jaw. In the excellent treatise on the Bones by Mr. Stanley, eight varieties of morbid growth from the lower jaw are described, but none answers to the characters just detailed; and in Mr. Paget's admirable



work on Surgical Pathology, recently published, no mention is made of any growth of the kind in the above situation.

In some respects this specimen would appear to correspond with the tumour termed "myeloid" by Mr. Paget, many kinds of which are met with in the lower maxilla, but close inspection clearly proved it to be of a cystic nature, and entitled it to be placed under the class "sero-cystic sarcoma," or cysto-sarcoma. Under the designation of "proliferous cysts with vascular growths from their internal surfaces," Mr. Paget describes a form of growth composed of cysts with intra-cystic vascular bodies, and which appears to me to accord pretty accurately with the characters of the foregoing morbid specimen. This specimen was examined with the microscope by Dr. Lyons, and he gave it as his opinion that the growth was perfectly benign, being an example of sero-cystic disease, the "solids being in the maximum." I regret I cannot represent this very interesting, and, as I think, rare tumour of the lower maxilla by an engraving, not having been able to procure a competent artist to make a drawing of it while in the recent state.

It is not my intention to occupy space in detailing the various plans of operating, and the many modifications that have been adopted or proposed by different surgeons from time to time, some of which are objectionable, or possess no particular recommendation. The method described in the foregoing case is that now usually pursued, and it has the double advantage of simplicity and facility of execution. I shall, therefore, merely consider the points worthy of more especial notice in the operation according to the method described. These are, first, the incision through the lip; second, the stage at which the facial artery should be cut; third, the easiest and quickest method of dividing the bone; fourth, the method of turning out the tumour. The advantage of leaving the red border of the lip uncut, instead of, as was formerly done, slitting it completely through, is obvious; and while it adds so much to the appearance, and facilitates the even adjustment of the cut edges beneath, it does not in the least degree render the operation more difficult. Simple as this modification is, attention to it will be found of great advantage.

The particulars relative to the division of the facial artery are, however, amongst the most important in connexion with the performance of excision of the lower jaw. All surgeons who have had experience in this operation admit that the amount of hemorrhage that occurs, and the degree of trouble it gives, depend on where and when this artery is divided.

When it is cut while the knife is being carried through the integument along the outside of the tumour, a good deal of blood may be lost before the surgeon can conveniently secure it; and if the incision shall run low down, corresponding with the border of the bone, when the vessel is divided it retracts within the areolar tissue beneath the jaw, as has been particularly observed by Mr. Cusack, and much time and trouble are expended in the endeavour to place a ligature upon it. Mr. Fergusson recommends that the knife should be carried lightly over the situation of the artery in making the incision along the tumour, and to avoid cutting it until the flap is being raised, when it can be secured by a ligature, or commanded by the finger of an assistant. Mr. Cusack has experienced so much annoyance by the retraction of the artery within the areolar tissue, when it has been divided low down, that he advises the incision to be always run a little above the border of the bone; so as to avoid cutting the artery in the notch. In the case related, both precepts—that of carrying the knife lightly over the situation of the artery, and running the incision above the lower border of the bone—were observed; and, most fortunately, the vessel was not cut, as already stated, until the last stroke of the knife was made, which saved much bleeding and delay during the removal of the diseased part.

As to the easiest and quickest method of dividing the bone, I think the plan adopted in the preceding case, if not the quickest, is the easiest for most persons, viz., grooving the bone with a saw first, and then clipping it through with a forceps. Some persons, who feel confidence in the strength of their hand and arm, prefer the employment of the forceps alone: few instruments, however, will be found sufficiently powerful to bear the degree of force that must thus be necessarily exercised upon them; and the shock to the parts, and the violence done to the patient thereby, are tenfold what otherwise would be. The only forceps fit for effecting division of the jaw bone, without previous use of the saw, is that invented by Mr. F. L'Estrange, of this city, whose many ingenious and useful surgical inventions have reflected such high credit on his mechanical skill. The blades of this instrument are so constructed as to come asunder and to admit of the separate introduction of the inner, and it leaves a perfectly smooth and even cut. Formerly the chain-saw was a favourite instrument for dividing the bone, and in the hands of those accustomed to its use it seemed to have worked in many instances with admirable efficiency. There are, however, some



objections to its general adoption: in the first place, a good deal of practice is required before the instrument can be properly employed; secondly, it is apt to break; thirdly, no matter how well it may be made to work, its action is comparatively tedious. The best method of dividing the bone, under almost all circumstances, I think is that of grooving it first with a small hand-saw, and then completing its division with a forceps. This is the plan recommended by the late Mr. Liston, and at present adopted by Mr. Fergusson. To render this method, however, quick and easy of execution, particular regard must be paid to the description of saw employed. If the instrument be clumsy and its teeth coarse, to make it work smoothly and with precision is impossible; the jaw being so movable, and the space so confined in which—especially in division of the ascending ramus—the saw has to be worked, that much difficulty and delay are experienced in making the necessary impression on the bone. The saw constantly slips and hitches, and becomes locked; and nothing can be more embarrassing to the operator, and painful to the bystanders to witness, than such ineffectual efforts to accomplish what may be looked on as the principal part of the operation.

A little reflection will render it evident that, considering the mobility of the jaw, the density of the bone, and the limited movement which can be given to the saw in consequence of the confined space in which it has to work, the instrument must be fine if it is to work smoothly and efficiently. In order to put these points to the test, I experimented with different kinds of saws upon the lower jaw in the dead subject, and I soon became impressed with the conviction that those commonly employed are far too coarse for the purpose; and that the finer the instrument, consistently with the necessary degree of strength, the better calculated it is for dividing the bone easily, and without hitching. The saw I found to cut the bone with greatest ease and least hitching was the kind which is used in the arts for cutting ivory or iron. It consists of a slender slip of steel with a finely serrated edge, and which is stretched tightly and fixed in a frame furnished with a handle. This instrument I found to pass through the bone with great ease and with surprising rapidity; but it was obvious that its shape was quite unsuited for the operation. When it had gone a certain depth the anterior extremity of the frame was found to tilt against the upper edge of the bone, and thus it restricted the sawing movement. I also found it inconvenient in sawing the ascending ramus high up; for in consequence of the manner in which the part is situated, being below the level of the

bony prominences in its vicinity, not much more than the anterior third of a small saw can be brought to act upon it, and the description of instrument under notice, owing to the way in which the blade is set, is quite unsuited for sawing unless its centre is fairly laid upon the part.

The saw which seemed to me to work most efficiently, and to be best adapted to the particular circumstances of the operation, was one made by Lüer, which I used in the case recited. This saw is constructed with a movable back, which terminates within about an inch of the extremity, and is deeply grooved to receive the upper border of the blade. When the back is elevated, the blade, owing to its thinness, is perfectly pliable, but when fixed in the groove it is quite firm and resisting, except at its extremity, which is narrower than at the handle, and slightly convex. The teeth of the instrument are very fine. The great advantage of this description of saw, independently of the fineness of its teeth, is, that the back being movable, allows it to pass to any depth through the bone. I also found that, owing to the shape of its extremity, I was able to act on the ascending ramus where it lies deep with more freedom than with any other kind I tried. The instrument I used was of very small size, the blade being hardly three inches in length; but I think that one a size or two larger would answer the purpose better<sup>a</sup>.

I have thus entered minutely into the step of sawing the bone, because it is obviously the chief part of the operation, and one which, in consequence of inattention to the kind of instrument used, and other particulars, is so frequently accomplished in an awkward and imperfect manner.

The forceps employed for clipping the bone through after being grooved need not be very strong, as a slight force will effect the separation; but its blades should be narrow, so as to admit of their easy introduction.

The fourth point for consideration—the method of turning out the tumour—is one of very great importance; for it is in this step of the operation that serious hemorrhage is apt to occur unless caution be employed, and one or two precepts observed. The bone, as has been described in the case, should be divided beyond each end of the tumour, and this should

<sup>a</sup> Mr. Trant, who has contributed to surgical art some excellent instruments, has recently invented an ingenious one for sawing through the lower jaw. It consists of a curved blade which is passed behind the bone, and is then made to describe a segment of a circle round it rapidly backwards and forwards by means of a wheel, thus working in a semicircular direction. I have not had an opportunity, however, of seeing this instrument applied in practice.



then be drawn downwards and outwards, so as to remove it from where the vessels lie: the knife is then to be insinuated with the back turned inwards and the soft parts divided, care being taken to keep the edge close to the tumour or bone. The attachments of the internal pterygoid muscle, the mylohyoid, and the mucous membrane, are thus separated at their insertion, and there can be no fear of encountering any vessel of magnitude. If, however, this caution be not observed,—if instead of running the edge of the knife close along the tumour, it be rather turned away from it, and made to cut widely, some of the lingual vessels will be apt to be divided, and in separating the ramus the external carotid will be endangered.

In exarticulating the bone the steps of the operation are to be precisely what have been described, so far as the incisions and division of the bone in front are concerned. Had it been deemed prudent to remove the condyle in the case related, no more would have been required than to extend the posterior incision a little upwards.

In opening into the articulation, notwithstanding what has been said to the contrary, I believe it should be made a rule always to cut into it in front, and to keep the knife as close round the condyle as possible, which are the securest means of avoiding the internal maxillary artery. Mr. Cusack insists particularly upon the prudence of opening the joints in front, and recommends the use of a probe-pointed bistoury for separating the attachments of the condyle after it has been laid open with the scalpel.

Mr. Fergusson, on the contrary, seems to consider it quite immaterial in which direction the articulation be opened, and apprehends little danger of the internal maxillary artery being wounded in any case if the knife be kept close upon the condyle. With the greatest deference, however, for the statement of so high an authority, I think it impossible, considering the vascular relations of the condyle, that the articulation could be opened in any other direction than from before without almost certain danger to the internal maxillary, and, if great caution be not observed, perhaps to other vessels besides. Another point worthy of consideration is the question as to whether the ramus should be sawed through, and the tumour removed (just as in the case recorded), before the condyle be exarticulated. Mr. Cusack, in the cases upon which he operated, generally found the bone so involved in the tumour as not to possess sufficient resistance to enable him to use it as a lever; accordingly, he was in the habit of first dividing the ramus above the angle, and then, seizing the remaining portion with

a strong forceps constructed for the purpose, he forced the head of the condyle forwards, and cutting upon it opened into the joint. Few operators, however, adopt this procedure, seeming to view it as unnecessary, and only causing delay in the operation. No doubt, this double step has the appearance of unnecessary trouble and delay, but I feel confident that in the majority of cases in which we are called upon to operate, its observance will generally tend to facilitate the operation, and to render it safer. It is generally directed, that when the bone is separated in front its divided extremity is to be seized, and the side of the jaw used as a lever by which to throw forward and twist the condyle. But how few cases do we meet with in which the bone possesses sufficient resistance to allow of its being used as a lever? Patients seldom apply to have the operation performed until the disease has advanced so far as to deprive the bone of nearly its entire firmness. Had exarticulation been attempted in the case recited, how could the side of the jaw have been used as a lever, seeing that it had degenerated into the softened mass which constituted the tumour? In such a case the diseased part should necessarily break down, thus involving the operation in confusion, and giving it a clumsy and unsightly aspect. Again, if the tumour be large, very little effectual purchase could be made upon it, as long at least as the muscles and other soft parts retain their attachment to it; and to separate these before the bone is disarticulated (as is usually done), where the tumour extends much inwardly towards the base of the tongue, would lead to the danger of wounding some large vessels; whereas, no matter how far it may bulge inwards, if the bone be divided first above the angle, the mass can be drawn downwards and outwards, as already described, and its attachments cut through with much less risk of hemorrhage.

In order to ascertain the comparative advantages of both methods of operating, I tried them on the dead subject, and I found I could exarticulate the condyle with far greater ease when the ramus had first been sawn through than I could when the continuity of the bone was preserved. When all is removed except the small portion of the ramus supporting the condyle and coronoid process, a comparatively free space is left in which the surgeon has to use his knife, and with the assistance of the strong forceps already alluded to, this piece of bone will form a better lever by which to thrust the head of the condyle forward than the side of the jaw will in most instances. The only disadvantage connected with this plan is the delay that may be experienced in sawing through the ramus;



but, as already remarked, if a saw properly adapted for the purpose be employed, very little time will be lost in effecting its division, and any that may occur will, I think, be more than compensated for by the greater facility with which the condyle will afterwards admit of exarticulation. The recommendation of this plan, however, is only urged in the generality of the cases of osteo-sarcomatous diseases submitted to operation. Doubtless many instances of disease demanding excision of the jaw are to be met with in which its adoption would be needless.

The foregoing observations relate merely to excision of one half of the lower jaw, but operative enterprise has gone much farther than this. Surgeons, emboldened with the success attending its partial removal, have not alone excised the chief part of the bone, but have even accomplished the brilliant achievement of taking away the entire jaw from both articulations. It is true that many of the cases in which the entire inferior maxilla has been removed have been merely instances of necrosis; but some have lately been recorded in which the operation was performed for osteo-sarcoma, and with such results as at once to establish the practicability, safety, and success of this bold procedure.

ART. XII.—*Selections from the Unpublished Manuscripts of the late ABRAHAM COLLES, Professor of Surgery to the Royal College of Surgeons of Ireland.* Edited by his Son, WILLIAM COLLES, F.R.C.S.I., Surgeon to Steevens' Hospital, &c.

(Continued from p. 71 of this volume.)

### NO. 3.—SURGICAL DISEASES OF THE NECK AND THROAT.

FOR the present communication I shall select a few interesting cases of disease affecting the various parts connected with the neck and throat, and I will add to them the notes of a clinical lecture (existing in my father's handwriting) which will, I trust, be found not devoid of interest or instruction.

CASE I. *Cancer of the Tongue.*—Nov. 5, 1807. John Williams, aged 50, farmer, five months ago perceived a small blister on the left side of his tongue, opposite the second molar tooth. This broke in a fortnight. He occasionally feels a scalding pain, which continues a few minutes, and is removed by a discharge of clear water; there is pain in the left ear and ramus of the jaw to the temple brought on as often as

he attempted to swallow; pain extended to the middle of the tongue. After a succession of blisters he perceived a lump to form on the tongue, which gradually increased. On inspection, the gums of all the teeth of the left side are swollen and loose, an incisor of the right side is loose, gums also swollen; on the left side of the tongue is a broad ulcerated surface, presenting a fungous appearance, with some patches of yellow; the thickness of this side of the tongue is increased to three times its natural state; the swelling passes to the right side of the tongue, but is not adherent to it; is not hard at the top; the disease spreads very little beyond the middle line; the right side perfectly healthy; there is a copious discharge of thick saliva from the mouth; can only swallow flour or bread steeped in milk; he says his health is good; appetite good; sleep disturbed by the discharge; pulse 74; no enlargement of lymphatic glands to be felt, but there is a fulness and hardness from the base of the chin half way to the os hyoides on both sides. 7th. Operation: (not detailed). The tumour is of a dirty brown colour, like a slough; he has had a constant flow of blood since the operation. 10th. Says he can swallow better; about one-third of the anterior part and a small portion of the external side of the tumour sloughed. 11th. Some blood came from his mouth. 22nd. A second ligature was passed round the base of the tumour.

Dec. 1st. It has now sloughed off; only a very small portion of its centre remains; the entire left side of the neck is occupied by a firm swelling, and a firm tumour rises in the mouth close to the inner surface of the jaw, larger than a walnut, and this pushes over the tongue; the ulcerated surface of the tongue looks healthy. 5th. About 3 o'clock this morning a smart hemorrhage from the mouth took place, amounting to one quart of blood; it was stopped by a saturated solution of alum; on removing the coagula a smart bleeding occurred; the ligature, which still remains, was not tight on the base of tumour; it was cut across; hemorrhage ceased. 6th. Had a return of hemorrhage at 10, again at 4 o'clock; it was restrained by dosils of lint dipped in oil of turpentine. He seems quite exhausted from loss of blood. (Case unfinished.)

CASE II. *Malignant Tumours of the Throat*.—May 6, 1809. Francis M'Donnell, admitted. Three years ago a small tumour appeared on the right side of the throat below the lower jaw; he had sore eyes a month before; by medicine he says the lump was scattered into a number of smaller lumps; they extended from the mastoid process of one temporal bone to the



other; they have been gradually increasing; at present a great mass of swelling occupies the right side of the neck from ear to ear, and half-way downwards; less extensive on the left side, where there are many distinct glandulous swellings; on the right side distinct tumours can only be felt at the edge of the large mass; two glands in right cheek are enlarged and hardened; glands down to clavicle are enlarged; no enlarged gland to be perceived elsewhere. He suffers great inconvenience when at work, as he cannot turn his head, and he feels pain in the tumour when he catches cold; on stooping and rising up he cannot distinguish objects, and fire seems to shine before his eyes; has headach; cannot run on account of shortness of breath, but there is no difficulty in swallowing. 14th. Salivated; not improved; complains of weakness; pulse 120; tumour on the left side somewhat smaller, on right not altered.

CASE III. *Malignant Tumour*.—Dec. 22, 1802. Pat Mul-len, aged 33, admitted. From an inch behind the right ear to the chin the forepart of the neck is filled up by a tumour, which occupies all the hollow to a level with the lower jaw; the surface of the tumour is not rugged; is of a red colour, approaching to livid; does not give any sensation of fluctuation; on the left side considerable hardness but little elevation is to be perceived, except under the jaw, where there is a large, hard tumour, not discoloured; on the right side the tumour is of a stony hardness, and quite immovable; has pain in it like the pricking of pins; this is constant for two or three days; has much impediment in chewing and swallowing; a fungous excrescence stretches more than half-way across the tongue, and rises a quarter of an inch above its surface; the cheek is thickened; he states that last June he first perceived a small kernel in the side of his cheek, quite movable; in two months after, he felt soreness in his throat; the excrescence from the tongue began in September; his appetite is good; no night sweats. 25th. Complains of strangling in the throat; cannot lie horizontally in bed, dreading loss of breath.

Jan. 12th, 1803.—Midway between the chin and chest ulceration like a long fissure commenced.

Feb. 1st. Ulcer size of the palm of the hand; quite superficial; has a yellow, adhesive discharge like the buffy coat of the blood; flesh and strength declining.

March 1st. Sore extends; quite superficial; pulse 126; sweats. 16th. Died in the evening.

CASE IV. *Malignant Tumours of Neck*.—Anne White, ad-

mitted July 3, 1802; five months ago fell on the right side of her face; a swelling formed in the malar bone, which gradually subsided; says the entire side of her face and neck was black after the fall; three weeks after, she perceived a swelling behind the right ear, then one in front. At present there is a small, distinct tumour before the ear, near to the zygomatic process; a large tumour fills up all the space occupied by the parotid gland, and reaches down to the clavicle, becoming divided as it descends; a large tumour also below the middle of the clavicle; left side of the face and neck affected in a similar manner; says the swelling began on the left side a month or six weeks ago; some distinct tumours are to be felt on the sides of the cervical vertebræ,—these give her much pain at times; she feels much difficulty in swallowing, and in performing the rotatory motion of the head; is easier since she had a warm bath. Appetite good; no thirst; tongue white; pulse 100. She died suddenly, after taking a glass of wine. All the lymphatic glands were enlarged in the vicinity of the neck.

CASE V. *Dislocation of the Spine*.—July 13, 1811. Michael Kennedy, aged 24: three months ago, leaping from a cart in motion, his coat was caught, and his head came to the ground; he lay for some time insensible; he remained in bed for three weeks, unable to move on account of severe pain in the head and neck; no pain whilst his head lay on the bolster, but the slightest attempt to move it caused great suffering; for three weeks he could not open his mouth except by drawing down the lower jaw with his fingers; his powers of swallowing impaired—fluids making a noise going down; solids stopping opposite larynx—rejected by coughing; no pain or loss of motion in upper or lower extremities. A fortnight ago he applied for admission. His chin was turned towards the left side, and was held nearly opposite to the articulation of the left clavicle with the sternum; a fulness visible on the back of the neck, near the upper part, and on the right side of the spinous processes; the nature of it could not be ascertained to be caused by displacement of the spinal process.

He was made to sit on the ground, his shoulders resting against the knees of a person sitting behind him; extension was made by one hand under the chin and another on the occiput; counter-extension by the knees; a considerable degree of force was employed, and a slight rotatory motion attempted at the same time; after making these efforts two or three times, the spinous process of the displaced vertebra could be distinctly



felt, although previously the displacement was judged of only by the combination of symptoms; three or four hours after these attempts he felt the right arm as if burned with nettles, and he lost the power of using it; in a few days he complained of numbness of the left side and loss of power; he now walks with an unsteady gait, left arm being moved as if slightly paralytic. (Unfinished.)

CASE VI. *Foreign Body in the Throat*.—May 28, 1813. A servant boy, aged eight years: six weeks ago, while playing with a pop-gun, he filled the barrel, which was a goose's quill, with raw potatoes; this he had in his mouth, and, falling from the window-stool, he swallowed it. The child was observed to be very black in the face, making efforts to swallow or vomit; he tore open his waistcoat, to get air for breathing, and he continued so for an hour, almost dying; he then became better; during the first week he was ill with continued fits of coughing, which his parents considered chincough; he makes croupy murmur in inspiration; inspiration more difficult than expiration; he has grown thin; disinclined to eat, from suffering great pain in swallowing; any attempt to turn the head round induced the cough, which seemed relieved by swallowing cold water; after first week he seemed better.

On the twenty-eighth day, or fourth Sunday from swallowing it, he threw up the quill; on laughing this brought on a cough, by which the quill was forced into his mouth; no vomiting attended it; through the entire of the month he pointed to the throat, a little above the top of sternum, as the seat of his pain; the quill was a little softened when rejected, but on drying resumed its original characters.

CASE VII. *Bone in the Throat*.—1800. John Harvey, aged 53, eating rather greedily, thought he swallowed a bone, which stuck in his throat opposite the left amygdala. Three days after, he could not raise his head, nor open his mouth sufficiently to admit inspiration; ropy saliva flowed constantly; an undefined swelling was felt at both sides of throat; a probang was passed without striking on any foreign body, or giving any relief; he could not let down even fluids the last twenty-four hours. On this evening he got up with difficulty a small quantity of thick, tenacious pus, after which he got down fluids, and in a few days could swallow as previously.

CASE VIII. *Ulcerated Throat*.—E. Brennan, aged 30, admitted Jan. 27, 1810; two years ago was affected with soreness of his throat; he used a decoction of woods, which

seemed to have the effect of healing the throat, but not perfectly, when he took some medicine supposed to be corrosive sublimate, which caused his mouth to become sore, but his complaints were not much relieved. Nine or ten years ago he was affected with what appears to have been a superficial, extensive ulcer of the thigh, healing in one part, and extending in another. Eight years ago a similar but smaller ulcer appeared on the left fore-arm; and about three years ago another, similar, on the left eyebrow. Four or five years elapsed before the ulcer on the thigh healed; that on the fore-arm remained for two years; the cicatrix left by each of these ulcers is of a silvery-white colour. At present the lining of the palate, the remains of the velum palati, and the back of the pharynx, are occupied by an ulcer; a part of the bones of the palate have been destroyed, and an opening to the nose exists in the centre of the palate. The ulcer is very unequal; its surface in some parts is covered with a thick, yellow matter; little or no preternatural redness extends beyond the edges; on the anterior surface of the remains of the arches of the palate is seen a white line resembling a former cicatrix. The ulceration may be seen extending into the nostrils; the discharge from the nose is sometimes mixed with blood. (Unfinished).

CASE IX. *Ulcerated Throat*.—Dec. 2, 1801. Richard Bullen, aged 22: three years ago he first perceived the back part of the uvula swollen, and painful in swallowing; this, he said, broke in a month, and healed, leaving a fissure in the palate, causing him to speak through the nose. For two years it remained well, occasionally swelling in frost and cold. Twelve months ago the ulceration began again behind the uvula, in back of the pharynx. Now all the space behind, from side to side, down as far as can be seen, is occupied by a broad ulcer, with uneven surface, ragged edges, whitish, sloughy surface; deep redness round; no pain in swallowing, though some of the fluids pass by the nose; never had venereal; general health good. Ordered a lotion of one grain of corrosive sublimate to an ounce of water.

Dec. 31. Ulcer much improved.

CASE X.—*Ulcerated Throat*.—July 14, 1802. Arthur Clarke got me to look at a man's throat: one amygdala ulcerated, the uvula destroyed by ulceration; the anterior arch between uvula and amygdalæ ulcerated. These ulcers had much of the lardaceous or venereal appearance, but differed from syphilis in that they were surrounded by redness which



resembled erysipelatous inflammation, and which spread to a considerable distance from the ulcers; said his throat had been sore two months from cold, taken when threshing; never had venereal; he is thirty-six years of age.

*Remarks.*—I am not thoroughly satisfied with the diagnosis here laid down; in the following cases there is the same erysipelatous inflammation.

I have seen half a dozen cases of this kind; they all occurred in the lower ranks, and in some connected with cold.

No surgical writer has mentioned the disease, its discrimination, or cure.

Mercury has been used in all the cases I have seen, and has cured them,—a stimulating gargle assisting.

CASE XI.—*Ulcerated Throat.*—Nov. 22, 1803. Hugh Cremor, aged 21, in February first felt soreness in his throat, which continued for three months, when it ulcerated. Has had the ulcer healed two or three times by medicine. He took corrosive sublimate, by which his mouth was made slightly sore. Six months after, it again ulcerated. Used no medicine. November—Ulcer occupies the left side of the velum; pendulous palate all ulcerated except in front; the posterior fauces so on the right side, less on the left; edge of ulcer in view; the surface dry, as if a thin crust formed over it; the amygdalæ not enlarged; two glands on the right side of the neck as large as a walnut; complains of pain in swallowing, particularly fluids; finds greatest pain on awaking at night, his throat is then so dry; general health good; never had venereal. Surface of ulcer lardaceous, irregular; edges rose colour. Dec. 15th. Mouth sore; ulcers improving.

CASE XII.—*Ulcerated Throat.*—January 5th, 1810. W. Travers, aged 22, four years ago had a sore throat, which continued for three months, and was healed by some sharp wash which blackened his teeth; does not know how his present complaint began; cannot breathe through the nose; suffers no pain; discharge from nose as in all others; has no sense of smelling; hearing little if at all affected; he has some little difficulty in swallowing. On inspecting the throat, no opening from the posterior nares can be seen, nor can an instrument be passed from the nares; his attempts to blow his nose evince that no passage exists. Marks of cicatrices at the posterior part of the pharynx, to which the soft palate appears to have adhered; the arch on each side still to be seen stretching up to the middle point of the cicatrix. A trochar for puncturing the

bladder was passed into the nostril, and the opening made by it enlarged by an incision from the mouth, and a seton passed from the nose to the mouth, and retained for some weeks; the edges were destroyed by lapis infernalis. His breathing was not altered by any of these remedies, and he left hospital after two months.

NOTES OF A CLINICAL LECTURE ON SCROFULOUS SORE THROAT<sup>a</sup>.

No author has given an account of this disease; it is merely mentioned when treating of the venereal disease affecting the throat.

No age seems exempt from its attacks. Mr. Colles never saw it occur under ten years of age. The seats of the disease are the palate, the tonsils, and nose. When it attacks the velum palati it destroys the entire of it, and if neglected, the bones will also suffer. Mr. Colles cannot describe the manner in which it makes its first appearance, never having had an opportunity of seeing the disease until ulceration had commenced. When this process has taken place the surface is covered with a yellow, tenacious discharge, the edges are ragged and irregular, and the ulceration is superficial; there is a diffused redness generally spread around it, along the neighbouring parts, and this diffused redness is the principal diagnostic between it and the venereal sore throat. In this the redness is of a lively rose colour, or such as we observe in erysipelas; in the venereal it is more of a dusky hue, or rather a copper colour; the two diseases strongly resemble each other in many respects: for example, the diffused redness, the lardaceous appearance, &c. The difficulty of distinguishing the two diseases is increased by the effects of medicine, for mercury will heal up the scrofulous sore throat, and it may again break out, and again heal up under the use of mercury. When we are in this state of indecision,—and it is a matter of much moment, as in a married man who had previously to his marriage been affected with lues,—then our best practice would be to wait a little, and see whether other venereal symptoms will appear, taking care, however, not to allow the ulceration to make too great ravages in the throat. When there is a relapse, the case will be clear, for the venereal ulcer either affects the same part again, or else the directly opposite side, while this does not again attack the same part, but affects the neighbouring parts; or, as the patient expresses himself, “breaks new ground.”

<sup>a</sup> Delivered in 1807. Reported by Mr. Scott.



But there is one circumstance which marks the distinction most correctly; that is, when the ulcer heals, it leaves no cicatrix, while this leaves a very peculiar kind of white, shining cicatrix; besides, in this the disease spreads widely, and heals up in one part while it is breaking out in another, so that the whole top of the pharynx shall exhibit proofs of having been at one time or another attacked.

The saline preparations of mercury answer best in the cure of this disease. They should be pushed so far as to affect the gums slightly, and this effect should be kept up for some time. Corrosive sublimate, in solution, in small doses, and largely diluted, will be found to agree best with scrofulous habits.

The cases and lecture here recorded seem to me worthy of attention.

The first case of cancer of the tongue may serve as an example of a termination of which few or no examples are recorded,—where, though the removal of the diseased portion by ligature may secure us against the occurrence of immediate hemorrhage, yet it does not, as is generally supposed, insure us against its occurrence in the second stage, or that of sloughing.

The malignant disease of the glands of the neck, described in the next case, is one which, in its early stage, may be mistaken for a scrofulous or other affection of these parts, and requires careful examination and attention to distinguish. We also find here an example of a tumour remaining stationary or indolent for a number of years, and then suddenly assuming the character of malignancy. This case was that to which my father was in the habit of recording the termination in his lectures,—where the man left hospital, was walking home, and had arrived at Ballybough Bridge (about three miles from the hospital), when he suddenly threw up his hat in the air, exclaiming, “By ——, I am dead!” and fell down a corpse.

The case of dislocated vertebra is one where we find the reduction or partial restoration of the bones does not always tend to arrest the tendency to paralysis, which is likely to ensue on compression of the spinal cord.

The possibility of a foreign body becoming impacted in the air-passages, and remaining there for a considerable time, was, we see, noticed long since; though in this case I find many arguments, which it is not necessary to repeat, adduced to prove the quill must have been in the trachea, and not in the œsophagus. It may here be remarked, that we have a number of cases recorded in which, after a time, the foreign body has

been expelled as if by the subsequent efforts of the parts, when an operation had, perhaps, been ineffectual; and again, several which either proved fatal or required an operation for their removal; but we still are in want of a criterion to judge in what cases, and at what time, an operation may be necessary, or the case left to the efforts of nature to expel the foreign body.

In this paper, however, I would particularly direct attention to the cases and lecture on that form of scrofulous sore throat which we see even in the present day frequently mistaken for venereal or mercurial. The patients present many peculiarities of the scrofulous constitution. In Steevens' Hospital they generally come from the hilly parts of the county of Wicklow, so that it is generally designated as the "Wicklow sore throat." We have also cases from the southern parts—Clare and Kerry. The treatment of this affection, however, has undergone some modification. Since the discovery of the efficacy of iodine and its compounds, we generally rely on some of them, and find we can heal this ulcer without resorting to the use of any preparation of mercury, which medicine has frequently been unjustly (I think) accused of causing this disease. There is a termination of this disease related in Case XII., where the opening between the nose and mouth became quite closed, so that no air could pass. The inconveniences are related in the case, as also the unavailing efforts to effect the slightest amendment by any proceeding we can adopt, and to which I also can bear testimony from experience. This is the more annoying to the surgeon from its apparent simplicity, and the facility by which it would appear, to one inexperienced, that the opening could be re-established and maintained; and it is not till after repeated failures he will begin to think it was not entirely to be attributed to inefficient surgery in former practitioners that this termination has not been more successfully combated.

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ART. XIII.—*On Slow Pulse, occurring in the Progress of Fever*<sup>a</sup>.

By HENRY KENNEDY, A.B., F.C.P.I., Physician Extraordinary to Sir P. Dun's Hospital.

It is almost unnecessary to commence my observations by stating, that in the great majority of cases of fever the pulse is quickened in the beginning of the disease: and it is of the first few days I am now speaking. Yet there are some very remark-

<sup>a</sup> Read before the Association of the College of Physicians.



able exceptions to this rule; for there is a class of cases, and I have notes of many such, in which for several days the pulse does not exceed 80. On the eighth, ninth, or tenth days, however, it becomes much quickened, and an attack, which at first appeared to be very light, has become most serious. All of these cases are alarming, and some of them fatal: they very generally occur in men, though I have met with them in females. This state of the pulse is one of the causes why at times the diagnosis of fever may be difficult; and it is a point about which we should be on our guard. As far as I have seen, it is common in private as well as hospital practice; and in the former, of course, we should be doubly on our guard. *En passant* I may observe, that the carriage of patients to hospital very frequently causes a diminution in the pulse,—not only in its strength, but also in the number of its beats. This, I presume, is due to the effects of cold; and a pulse which only beats 80 before the patient is put to bed will, in the course of a few hours, rise to 120 or 130. And here a *quære* may be put:—Have we not wrongly lost sight of a practice which was formerly used with the greatest success in certain cases—I mean the exposure of patients to the open air? I have been speaking of cases where, during the first days of fever, there was no rise in the pulse. I would now, however, direct attention to what may be called the middle stage of fever, during which the pulse frequently presents the peculiarity of being slow. This may occur under at least three different aspects, and possibly more, though I have not seen them myself. In the first, the fever is going on in the ordinary way, when symptoms of jaundice show themselves. Under such circumstances, the pulse, I believe, will almost invariably be found to be slow,—that is, beating about 80, or even less, in the minute; and this will be found to occur even when, in the first instance, it was very much quicker. This is not by any means a fatal class of cases, nor is it at all necessary that the jaundice should be at any intense degree to cause the state of pulse alluded to. Probably some detail of a case of this kind might not be out of place. I may here mention, that the great majority of the cases which I may have occasion either to allude to or detail in the following remarks; I have seen in the Cork-street Fever Hospital, under the care of Dr. George Kennedy.

CASE I.—In October, 1846, a man named Dunn, aged about 56, came into hospital. He was at the time quite able to walk to the institution; he had a good deal of nervousness about him, and his illness was attributed to mental causes; he was five days ill; his tongue was as dry as a board; the pulse 80;

no sign whatever of jaundice. The following day—that is, the sixth day of his illness—he had some vomiting in the morning; about an hour after which he was seized with sudden collapse, and of so urgent a kind that it was thought he would have died in it. He got wine, by means of which he rallied, and in the course of the same day it was observed that his skin was becoming yellow. His motions were light-coloured, but not in a marked degree. Next day his entire body was yellow; no weak fit since; tongue still dry as a board; pulse 66, and full; he speaks strong. Following day, pulse between 56–60; tongue as yesterday; surface of body not so yellow; he sleeps a good deal, and lies on his side; vomits now and then. The next day pulse had risen to 76 full; tongue rather improved as to moistness, but now densely furred; bowels have become too free, and discharges of a dysenteric character, with blood; nurse says he forgets things very fast; skin this day scarcely coloured. From this day he did well, his pulse remaining steady at 76.

This was one of a class of cases of which I have now seen several, and all exceedingly like each other<sup>a</sup>,—I mean as regards the state of the pulse, which in this instance fell as low on one day as 56, 76 being its ordinary beat. I need scarcely observe, that ordinary cases of jaundice are attended with slow pulse, as are also those cases which are known by the name of black jaundice, and which are so commonly fatal. Fever, then, when complicated with jaundice, may be looked upon as being usually attended with slow pulse.

A second state of things in which slow pulse occurs, in connexion with fever, is in that class of cases in which brain affection exists. This, of course, is well known as being now common in the hydrocephalus of childhood. It also occurs, however, and it is well to keep it in mind, amongst adults. On another occasion I have ventured to direct particular attention to this part of the subject. The cases I allude to are of a most insidious character, owing to the very slight degree of fever usually present, while at the same time they are unusually fatal. The pulse, in the first instance, is in such cases quick-

<sup>a</sup> A girl of 17 in the course of a very heavy fever, attended with sordes on tongue and lips, and also deeply jaundiced, had a pulse beating only 60 in the minute. During her convalescence this girl suffered more from violent pains in the feet than I ever witnessed either before or since.

Sweetman (all whose family were suffering from fever at the time) was admitted on the ninth day, deeply jaundiced, and affected with fever: the jaundice had appeared suddenly the day before. This man's pulse beat at 54 until he began to improve, when it rose to 62, at which it remained even when he was quite convalescent.



ened; it then falls, often not being more than 50, and again rises before the death of the patient. Of such cases I have notes of several in individuals ranging from fifteen to twenty years of age, the majority being females; but having already entered into this part of my subject at some length, I shall speak of it no further here<sup>a</sup>.

To the third form of slow pulse I would now direct more particular attention; and, possibly, some detail of the class of cases I am speaking of will best illustrate its nature.

CASE II.—Mulready, a tanner,—a trade which, I may remark in passing, suffers very rarely from fever,—was admitted, labouring under the disease, in June, 1850. He had been previously a very healthy man. His fever was unusually heavy, but he was not spotted. On the eighth day my attention was attracted by the state of his pulse, which beat in the minute only 48. At about this rate it continued three days, when it began to rise, and as it did so the symptoms all declined, the pulse ultimately reaching 78, and so remaining. This man had no head symptoms whatever.

CASE III.—Kelly, a man aged 25, not a teetotaller, was attacked with heavy fever; complaining, at first, a good deal of his head. He had been seven days ill, and had vomited very constantly a large quantity of dark green stuff, at times almost black. His pulse was but 60, and very weak at the wrist. He had a few scattered spots on his chest. In this state exactly he continued for three days; the symptoms, however, not improving, and the vomiting still going on. His nights were very bad. Towards the last the pulse rose to 72, at which it remained until death. For four days previously he would not allow he had any pain in his head, nor indeed anywhere else, nor did the eyes betoken any marked affection of the brain. Towards the last he had also hiccup. I do not pretend to offer any conjecture as to the nature of this case: it is simply stated here as it afforded a marked example of a

<sup>a</sup> A bare allusion to what occurs in the event of crisis taking place is all that is called for here. I need not state that before it the pulse invariably becomes quick; then, as crisis goes on, it becomes slower and much fuller, and, finally, when the process is to terminate favourably, the pulse has fallen to its natural standard; and so, in the course of a very few hours, a pulse of 120 is reduced to 75 or 80. If it be not a misnomer, this is what may be called the natural or healthy progress of the disease. Crisis, however, I may state, is not confined to simple fevers, I have seen it in other acute diseases. I may refer here to a valuable paper by Dr. Read, published in the third volume of the Transactions of the Association of the College of Physicians, in which he speaks of the effects of the nervous agency on the pulse in cases of fever.

very bad form of fever, attended with a pulse ranging only from 60 to 72.

CASE IV.—Flannery, a man aged 35, came in with fever and petechiæ; but, singularly enough, his tongue was all but clean. His pulse, while the spots were still out, was but 54: it rose as he approached convalescence. He never complained at any period of his head, but he had the most deadly weakness. He got wine early in the disease.

CASE V.—Coffee, a delicate woman, aged 38, came in with her chest a good deal engaged, and labouring under fever. I could not ascertain well how long she had been ill, but it was certainly for more than a week. Her tongue was very dry and unusually rough. This woman made some complaint of her head. Her pulse for several days was but 60, but it ultimately rose as she became better.

CASE VI.—A man named Mitchel, twenty-five years of age, from Galway, was admitted with so little apparently wrong that it was doubtful whether he should be taken in. In the course of three or four days, however, fever lighted up, and he very shortly after presented a very good specimen of nervous fever, mixed up with delirium tremens. It is particularly worthy of note, that during this state his pulse remained at about 66; for in any other experience I have had of similar cases, the pulse has been invariably rapid. This man had threatenings of a relapse, which, however, passed off. Before he left the fever ward, also, he had two well-marked epileptic fits. Possibly this state of constitution may have had something to say to the state of his pulse during his illness. When well, I should state his pulse beat under 70.

CASE VII.—Smith, a young man aged 18, whose case presented many features of interest, had a pulse at 84, while his fever was to all appearance hopeless: amongst other symptoms I may mention a good deal of movement of the lower jaw, and an inability to put out his tongue. In this instance, I should state the brain was very much engaged. As he got out of the dangerous state his pulse rose considerably; that is, as he got better his pulse got quicker,—rather an anomaly, it might be supposed; it ultimately, however, fell to the natural standard.

CASE VIII.—Bradshaw, aged 24, came in with heavy fever; his eyes much suffused; tongue red and furred: he was spotted, but not extensively. On the ninth day of his fever the pulse was 90, and dicrotous. He had some vomiting,



which increased, and was preceded by hiccup. At this period his pulse fell to 42, and so remained for about two days, when his eyes began to clear, his tongue to clean, though still remaining red; his pulse then began to rise, and reached 68, at which time he might be pronounced convalescent.

CASE IX.—Rogan, a man aged 30, admitted labouring under a second attack of rheumatic fever, which presented all the usual symptoms, except that during it his pulse never exceeded 54. A souffle occupied the place of the first sound of the heart. When convalescing, this patient was seized with spotted fever, during which his pulse was rapid,—112, 120. He ultimately did well; and it was curious, as he convalesced, that he complained a good deal again of rheumatic pains, which did not, however, assume a regular attack.

CASE X.—Donovan, a man aged 30, presented very heavy fever, with severe pains in his back and limbs; yet in the height of the attack his pulse beat but 50; as he got better it rose to 66. This is all the note I happen to have of this case.

Such are a few of the cases of which I have notes, and in which the pulse, while sickness was still heavy on the patient, was unusually slow. Cases where the pulse beats from 80 to 86 during the progress of the heaviest fever are very common; but though I have notes of many such, I have not thought it necessary to detail them. Whether this state of slow pulse arises from any peculiarity of the poison of fever,—as is not improbable,—or whether it is due to idiosyncrasy, I shall not take on me to determine. To myself, it appears to be met with in fever more frequently than any peculiarity of constitution would account for; and hence I am inclined to think it is due to the nature of the fever itself. I have some recollection of having read an account of a sort of epidemic of fever in which slow pulse was very common, but I have not been able to refer to it.

From what precedes, a general idea has been afforded of the class of cases of fever I would more particularly now bring under notice. It will be observed, that the slow pulse occurred both in instances where spots were present and where they were not; but, speaking generally, the majority were not spotted, and when spots did appear they were but few in number. A similar remark applies to the state of the brain, which, while it was much engaged in some, in others it was, or ap-

peared to be, perfectly free. I may observe here, that I have known more than one instance in private practice where the greatest alarm prevailed on account of this very state of the pulse. While such cases cannot be said to be quite free from danger, it may, I think, be stated, that the great majority do well.

It is scarcely necessary to observe, that independently of the class of cases I have been speaking of, slow pulse is by no means an uncommon attendant of many cases of acute disease. I do not here speak of such a marked lowering of the pulse as has been already described as occurring in fever where the beat did not exceed 45 to 60, but I allude to cases of pneumonia, pleuritis, and peritonitis, where the pulse did not exceed 80; but, what is much more remarkable, I have now seen three well-marked examples of acute pericarditis in which the pulse did not exceed 80 beats in the minute: exceptional cases, to be sure, in a disease so very constantly accompanied by a rapid pulse, but still showing the possibility of such an occurrence, and affording a good example of that kind of family likeness—if I may so speak—which runs through all the acute diseases.

The study of the analogies which obtain between acute diseases, including fevers, is a subject deserving more attention than it has hitherto received. I think it will be found that a complete knowledge of any one of them—and more particularly, perhaps, of fever—gives a clue to all, and this in a much closer way than might at first sight appear. Thus, the slow pulse of fever of which I have been speaking is not, as already stated, confined to that disease; it certainly exists in some cases of pleuritis, pneumonia, and pericarditis, and there is little doubt it occurs also in scarlatina, small-pox, &c. As another example of what I mean I may state, that small-pox has ever been looked upon as the disease which affords an example of what is known as secondary fever, and this to the exclusion of all other acute fevers. Now, this is not correct; and I believe I was the first myself to put on record the fact, that certain cases of scarlatina afford as good examples of secondary fever as small-pox itself. But let us look for a moment to the important question of treatment; as, for instance, the administration of wine. I am sure it will be at once allowed that, in the giving or withholding this agent, we are to be guided by rules which apply to one and all the diseases of which I have been speaking; and that whatever be the points which guide us in giving wine in ordinary fever—and I refer to it as being our most common disease—apply exactly to the



other acute affections. It is anything but my intention to enter into a detail on this point; such would be quite out of place here: all I would do is to direct attention to what may be called a generalization in the study of the acute affections, by which, I believe, our knowledge of their natural history may be very much extended, and their treatment very much simplified.

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ART. XIV.—*On the Local Application of the Vapour of Chloroform in the Treatment of various Diseases, especially those of the Uterine Organs; with the Description of an Instrument invented for this purpose.* By S. L. HARDY, M.D., Fellow of, and Examiner on Midwifery to, the Royal College of Surgeons of Ireland; Ex-Assistant Physician to the Rotundo Lying-in Hospital; Vice-President of the Dublin Obstetrical Society; Physician to the Institution for Diseases of Children, &c.

DURING the last few years in which chloroform has been brought so prominently forward as a valuable and powerful agent in mitigating suffering, the mode of using it has varied according to circumstances. In some cases inhalation of the vapour is preferred; in others the fluid is taken in the form of draught; and lastly, it is externally applied either alone or in combination with some liniment or ointment. Notwithstanding the great utility of chloroform employed in each of these methods, there are cases in which none of them are free from objection, nor can the benefit that is wished for be obtained by any of them with perfect satisfaction. A person may labour under a disease so situated as to be far removed from the influence of this medicine if used in ointment or liniment. A considerable time may consequently elapse before relief can be had, and therefore other remedies which may be more prompt or less troublesome are sought for; or perhaps, though decided and immediate relief could be obtained by inhalation of the vapour, there is an unwillingness to be deprived of consciousness or to be subjected to this plan of treatment. But, independent of any disinclination on the part of the patient, there may be insurmountable obstacles where cardiac or pulmonary disease is present, forbidding its use by inhalation.

That chloroform may be used with very great benefit to the patient without being inhaled, and so as to cause relief from suffering much more quickly than it does when applied in the liquid form, or in ointment or liniment, I have endeavoured

voured to prove by the local application of the vapour by means of an apparatus suited to the purpose. The short time which has elapsed since the instrument was perfected has prevented me from having had more than a limited trial of it. So far, however, as it has been used, the results are most satisfactory. The few cases to be detailed will convey, better than any explanation I could give, an idea of its effects, and may serve, in some measure, to prove how far we may expect benefit in following up this plan of treatment. On referring to them, it will be seen that they relate principally to affections connected with the uterine system, to which this method seems particularly well suited, though future trials will tell whether many diseases, both in the male and female, may not obtain infinite service from it; but for the present it will be noticed only so far as it bears on this class of cases. Many of the diseases of females are not only exceedingly painful in their nature, but are rendered very difficult to treat, owing to a highly sensitive state of the nervous system. Pain may be most severe, but, to give relief, the evil effects of opium prevent its more frequent use: therefore other remedies less likely to cause those unpleasant consequences are prescribed. Instance, for example, cases of carcinoma of the uterus, in which, when pain becomes severe, opium must be resorted to. What is the state of the patient under its use? Ease is obtained, and perhaps rest in sleep, both most necessary and indispensable; but, on the other hand, extreme nervousness, headach, loss of appetite, constipation, and a host of ills, are ushered in or increased by it. Or, if it be a case of pain or irritation, as in dysmenorrhœal patients, here again opium is not resorted to if it can possibly be avoided, for many of the reasons already mentioned; but other remedies whose action, though milder, is less likely to disturb the nervous system, already too much excited, are mostly directed,—as camphor, extract of hyoscyamus, hops, &c.,—yet whose soothing effects are frequently very slow in producing the desired ease and comfort for the sufferer. In such cases, if the local application of the vapour of chloroform succeed in future trials, as it has already done, most immediate and very comfortable relief may be expected from its use.

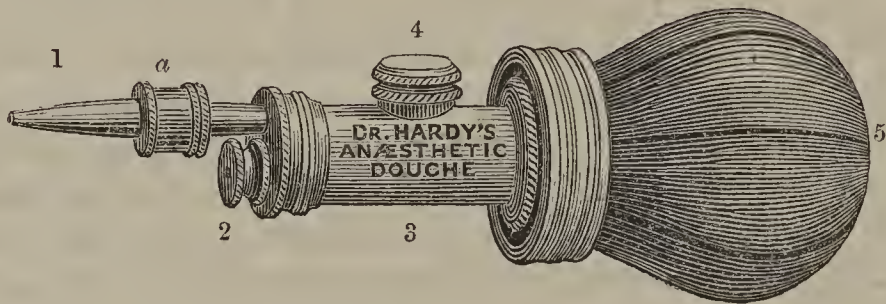
The first effect produced by its application is a sensation of heat, which some complain of more than others, but which in a very few minutes is not referred to, as it is either more easily borne or soon subsides. If much uneasiness is expressed on account of it, the action of the instrument may be suspended for a little, or its effect diminished, which is all that is necessary. When applied *per vaginam*, on account of pain in the



loins and sometimes over the pubis, arising from uterine irritation, immediately after the sensation of heat is felt from the presence of the vapour, the pain subsides, first in the back, then in the pubic region.

I have met with but one case in which chloroform, applied in this manner, did not remove pain; but in this instance the uneasy sensations were confined to the uterus, or felt per vaginam, and at the time the os uteri was very irritable on account of excoriation, which might account for a greater degree of heat than usual being experienced from the vapour<sup>a</sup>.

The relief afforded by the local application of the vapour of chloroform is not of a very transient nature. In every instance in which pain was removed by it there was no return for several hours, and then in a very mitigated degree. In the intervals, great comfort was usually felt. Patients who previously had taken opium, as in case No. I., preferred chloroform, as it caused no unpleasant sensation in the head next day.



The apparatus for applying it<sup>b</sup> consists of a small metallic chamber; to one end of this a gum-elastic bottle is attached, to the other, a pipe furnished with a valve. On the end of the chamber there is also a second valve to admit atmospheric air for the working of the instrument. In order to charge it with chloroform it is necessary to unscrew the stopper in the side of the chamber, within which a piece of sponge is placed for holding the fluid.

The quantity poured in should not be more than the sponge will absorb, otherwise, instead of vapour, fluid chloroform will be thrown against the affected part. When charged, the vapour may be conveyed to the part requiring its application by any convenient pipe, if closely fitted to the one on the instru-

<sup>a</sup> While these pages were passing through the press, I was informed by this patient that on the heat caused by the chloroform subsiding, which took place in much less than half an hour, she felt perfectly relieved of the uterine pain, and had no return of it.

<sup>b</sup> 1. Small pipe containing a valve *a* for transmitting the vapour; 2. Air-valve; 3. Chamber containing within it a sponge for holding the chloroform; 4. Screw stopper for closing sponge chamber; 5. India-rubber bottle attached.

ment, pressure being made on the elastic bag to produce expulsion of the vapour.

In proceeding to the consideration of some of the cases in which the vapour of chloroform was used by me locally, the first disease presented to the reader is so well known as an exceedingly painful and distressing affection, that it requires no comment. Valuable indeed would that remedy be which in such a complaint could hold out the hope of affording relief during the often long and torturing existence of many who are the victims of this sad malady. Allusion having been already made to the use of opium in the treatment of it, sufficient has been said to prove, that if, even for part of the duration of this complaint, it could be dispensed with by substituting the vapour of chloroform, this remedy is well deserving of a trial. In the present case it has been found most useful. Pain has been removed by it in fully as short a time as it could have been by inhalation, without the smallest uneasiness to the patient, who, as is stated in the case, was so perfectly relieved that she fell into a quiet sleep, and had an excellent night's rest, and this not on one occasion only.

CASE I.—Mrs. L., aged 45, a very large, strong-looking woman, weighing about eighteen stone, the mother of seven children, her youngest five years old, had frequent attacks of uterine hemorrhage at irregular periods, which she supposed to be menorrhagic, as her regular menstruation, she said, had not ceased when those irregular hemorrhagic discharges began. Little notice was at first taken of them, but as they resisted the means adopted by her medical attendants, it was deemed necessary to have the uterus examined, for which purpose I was called to see her on the 19th of February, 1853.

I learned that, besides hemorrhage, she had in the intervals, a most offensive muco-purulent discharge; there was a sensation of burning experienced in the loins, the bladder was more or less irritable, and the bowels were generally confined, the alvine dejections being of an exceedingly dark colour, and looking as if streaked with blood: altogether she felt nervous to the greatest degree, and had become remarkably pale and weak from hemorrhage, which was not only frequent in its returns but very profuse.

On examination with the finger, the uterus felt extensively affected by carcinoma; ulceration had destroyed the cervix to a great extent; the edges of the ulcerated parts were most exquisitely tender to the touch, sharp and severe pain being complained of, from the gentlest pressure with the finger.

Under the use of astringent and soothing lotions, cupping



over the loins and sacrum, with tonics, &c., given internally, the hemorrhage ceased, and only returned at long intervals, and mostly owing to some accidental circumstance, such as a drive on a rough car, violent mental emotions, to which her exceedingly nervous temperament made her peculiarly liable, or awkwardness on the part of her nurse in using the syringe when injecting lotions. The sensation of heat in the loins was also relieved in the course of a few days, and only troubled her occasionally; constipation of the bowels invariably increased her sufferings, and if unrelieved by aperient medicine frequently caused a recurrence of the hemorrhage. At this time she did not suffer much, nor had she the characteristic pains of carcinoma until the month of May. In order to obviate the necessity for giving opiates, when pain became severe, various remedies were resorted to, such as tincture of Indian hemp, camphor and extract of hyoscyamus, chloroform in draughts, cupping over the loins and sacrum, tepid hip-bath, &c. A drachm of chloroform and a scruple of camphor, mixed with an ounce of white wax ointment, to which was added occasionally a drachm of extract of belladonna, when rubbed over the loins, either after or without the use of the hip-bath, gave very great relief, and was exceedingly grateful to her.

Gentle exercise, by driving in the open air, improved her appetite very much, and tended towards obtaining comfortable sleep for her at night. At length the pains became so severe that morphia draughts were frequently required. I now resorted to the local application of the vapour of chloroform, and with the most satisfactory results.

When the vapour douche of chloroform was used for about two minutes the finger could be moved freely over the edge of the ulcerated uterus without causing the least degree of pain, which never was the case before. The patient said she had a feeling of warmth or heat during the action of the vapour, which was soon succeeded by a numb sensation.

The first time that pain required the chloroform to be applied the suffering was perfectly removed in a few minutes, and the relief was so great that, on withdrawing the instrument, she fell into a most refreshing sleep, and had an excellent night's rest. It is now always resorted to when the pain must be quieted, and is very much preferred by the patient for that purpose to the morphia draughts, as she says her head is free from uneasy sensations the next day, which is not the case when she takes morphia.

For the following cases, Nos. II. and III., chloroform vapour

seems to be particularly well suited. Before making a trial I had expected good results from its application; but the rapidity of its action in giving relief in each, and the permanency of the ease afforded in Case No. III. exceeded my hopes very much. It is deserving of notice that in Case II. the duration of the menstrual period was much lengthened, from which circumstance it may be inferred that the application has not only the effect of saving the patient from her usual degree of suffering, but, by subduing the spasmodic action of the uterus, tends towards the production of a more natural secretion. As yet I have not had an opportunity of testing its efficacy thus in the patient of Case III.; it is her intention, however, to resort to its use when next about to menstruate, so that at a future time the results may be laid before the reader.

CASE II.—Miss R., aged 25, was for some months under treatment for disease of the uterus before coming under my care.

When I first saw her on the 13th September, 1853, she informed me that the ulceration which had affected her womb was for some time healed (which statement was verified by examination), and that she now suffered from very intense pain in that organ, which seized her every morning on awakening, and continued more or less during the day, accompanied by painful sensations in the lower part of the back. Menstruation was regular in its return, but its approach was attended with very severe pain, the secretion was very scanty, and continued but for one day only. Her appetite was not good, and she was exceedingly nervous and weak.

Part of the treatment I adopted with this lady was the application of the vapour of chloroform to the uterus, which she was able to do herself. A very few days had passed when she told me the vapour always relieved her, and she felt improved under its use, and when applied at night going to bed she had the pain much less severe next morning.

On the 19th she had the sensations usually experienced on the approach of menstruation, which on former occasions were, as already noticed, exceedingly painful, but at this time she resorted to the chloroform vapour, which had the effect of rendering her perfectly comfortable, and the secretion, which usually lasted for but one day, now continued for three.

CASE III.—Mrs. F., aged 25, a strong-looking woman, first came under my care on the 23rd of April, 1853. Shortly after marriage, which took place three years before this date, she aborted; since then she did not again become pregnant. Menstruation, both before marriage and to this time, was al-



ways very painful; the discharge scanty, and dysmenorrhœal membrane frequently expelled.

For the last two and a half years her health and strength very much declined, and she suffered from severe pain in the back and uterine region, attended with leucorrhœal discharge. On examination by the speculum excoriation of the os and cervix uteri was discovered, which soon got well under the treatment adopted.

On the 15th of September she again consulted me on account of a return of the severe lumbar and uterine pain which had troubled her for some time past, but on the day previous to her coming to me was so excruciating, and accompanied by so much pain in her breasts, that she thought it impossible she could have borne it. This day the pain in her breasts was better, but in other respects she suffered nearly as much as on yesterday, from pain in the pubic and uterine regions, and back. The uterus was tender to the touch when examined by the finger internally, but no abrasion of the os or cervix was discovered by the speculum. The vapour of chloroform, locally applied by the anæsthetic douche, had the most immediate and happy effects. In no case that I have met with did relief so instantly succèd to its use. Not more than a minute could have passed from commencing its application when the patient expressed herself relieved from, first, the lumbar pain, and next, that in the pubic and uterine regions. After I had withdrawn the instrument, for some time a sensation of warmth, of a very agreeable nature, combined with that of strength, was described as being felt in the back. Altogether, she said, for months she had not been so free from pain or so comfortable. Judging from the expression of countenance, the change so immediate from suffering to freedom from pain was most remarkable. There was no return of it until about eight o'clock in the evening, from the time of the application of chloroform during the day, which was between twelve and one o'clock; but it was then so trivial that she did not think anything of it. The next day two or three jets of the douche quite removed every trace of uneasiness. The patient said she was not only relieved of the pain in her back, but she was perfectly free from a bearing-down sensation which had troubled her very much for some time past.

The drain of suckling on a weak constitution tends to the production of many debilitating and nervous complaints, which are met with very frequently in the form of headach, giddiness, pain in various situations, &c. The following case affords an instance of this description. The subject of it was

very unfit to act in the capacity of wet-nurse, and was rendered still more unfit by the occurrence of uterine hemorrhage. Increased debility, as a natural consequence, followed the loss of blood; then came on violent lumbar and epigastric pains.

The remedies usually resorted to in such cases, and which are very beneficial, consist in tonics and anti-spasmodics, to which must be added a full and generous regimen, with exercise in the open air; but in the present instance it was very desirable to relieve suffering immediately, which was of a very severe nature, and in itself, independent of the previous drain, exceedingly debilitating to the patient's constitution. The vapour of chloroform served to effect this in a most satisfactory manner, and within the space of a much shorter time than could have been accomplished by any other remedy with which I am acquainted, while it in no way prevented the adoption afterwards of those means which were fitted to restore strength and vigour.

CASE IV.—Mrs. K., aged 32, a delicate-looking person, the mother of six children, at present nursing her youngest, a child of seven months' old, was seized in August last with violent uterine hemorrhage, since which occurrence her back troubled her very much, and for three days previous to my seeing her was accompanied by severe pain, referred to the epigastric region. Owing to the violence of her sufferings, she came to consult me about three weeks after the attack of uterine hemorrhage. She seemed in great pain, and was bent forward from that in the epigastrium, which she described as running across from right to left. Immediate relief was anxiously sought for: I therefore proceeded to apply the vapour of chloroform to the uterus, *per vaginam*, by the anæsthetic douche, in hopes of giving her ease sooner in this way than by any other means. I had scarcely sent half a dozen jets against the os uteri when the pain subsided, first in the back, and immediately after in the epigastrium. The sensation perceived by her she described as being a most agreeable and comfortable feeling of heat in the spine, and a total relief from every trace of pain, which ease she had been a stranger to for the last three weeks. On rising from the sofa to sit in the upright position she felt a little weak, but only for a few minutes. During the application of the vapour she had no unpleasant or unusual sensation in her head, and the pulse seemed unaffected.

When abortion frequently takes place in any female, but more particularly in one of a much injured constitution, hav-



ing in it the dregs of syphilis, diseases hard to manage, and attended with a good deal of distress, are occasionally presented to the medical man. The case next detailed is very much of this description. Various remedies were resorted to, but none of them served to secure perfect relief to the patient, whose situation in life rendered her peculiarly liable to relapse. She was the wife of a soldier, and consequently passed from the care of one medical practitioner to that of another, to which circumstance she referred much of her delicacy.

It will be seen in the notes of the case that chloroform was used in the form of ointment with more relief than was obtained from any of the other remedies, but at length failed in procuring ease; however, by resorting to the vapour, the benefit derived was very decided, and far more effectual than had been before experienced from any previous plan of treatment. The patient herself felt so entirely free from her usual sensation that her countenance now bore the expression of comfort and satisfaction.

CASE V.—Mrs. R., aged 33, a very weak, sickly-looking woman, came under my care on the 4th of April, 1853, on account of uterine hemorrhage, which had followed a miscarriage she had three weeks previously. She had brought forth three children, all premature, and had several abortions. From her general appearance, and the history of her case, I found that a syphilitic taint was in the constitution; and the want of proper advice and care at all times, but particularly in her abortions, had added much towards increasing her delicacy. After the hemorrhagic discharge was altogether restrained, it was discovered that ulceration of the os uteri existed, which got quite well under treatment. During the time that it was present, and for some time after its being healed, she suffered very much from pain in the back and loins, with a most distressing sensation of scalding in the vagina, which required numerous remedies for its relief. One of the most effectual was the ointment mentioned in Case I. Rubbing a little of this across the loins and over the sacrum was very soothing and agreeable.

On the 12th September she had a return of pain in the back and vagina such as I have described, but without a recurrence of ulceration of the os uteri. She resorted to the use of the ointment to her loins in the usual way, but without obtaining relief.

On the 15th she was forced to come to me, having suffered so much during the previous night, and was evidently in very great distress. I now applied the chloroform vapour, by means of the anæsthetic douche, to the uterus and vagina. In about

four or five minutes she experienced relief, first in the back, and presently after in the vagina. I continued its use for several minutes in order to render the effect more permanent, which so fully succeeded, that she walked away feeling quite comfortable and free from pain. When I next saw her, a few days after the application, she said relief was still felt by her, and that she had more ease than for a very long time previously.

The nipples are not uncommonly the seat of a good deal of irritation, quite independent of the existence of abrasions or fissures, which could account for this circumstance. I met with a most troublesome case of the kind some time ago in a first confinement, where pain was so great on applying the child that the lady, a very excitable person, could not bear the least effort of suction, though the cuticle, by the application of lotions during the latter months of pregnancy, was in a most healthy condition, without the least appearance of abrasion or fissure on the nipples, which were well formed, and projected sufficiently from the breasts. By smearing some extract of belladonna over the breasts, at some distance from the nipples, about an hour before nursing, all irritability was removed during the process of suction. To prevent risk to the child the belladonna was carefully washed off before placing it at the breast. This treatment was pursued for but two or three days, when the annoyance was perfectly relieved.

The results obtained in the following case from the local employment of the vapour of chloroform to the breast would lead me to prefer its use in a similar instance of irritable nipples to that related. It is less troublesome in its application than the extract of belladonna, and infinitely safer for the child. It is worth remarking how long the effect produced by it continued, several hours having elapsed before pain again became troublesome.

CASE VI.—A. Coffey, aged 30, the mother of five children, applied to me on the 16th of September, 1853, under the following circumstances. A week before coming, her child, an infant of thirteen months old, was sucking, and bit the nipple of her left breast, which hurt her very much. She persisted in nursing after the injury until the 16th of September, when the pain was so great that she was forced to desist. The entire breast was exquisitely tender to the touch, particularly on its under surface and towards the axilla, where it felt very hard and much enlarged; the skin moved freely over the tumified gland, and was free from any inflammatory blush. The nipple



was also very tender, and had a small scar on it, such as a child's tooth would make.

The patient informed me that for the last few days she had frequently a sensation of faintness, and altogether was very weak and languid.

In order to prevent the too rapid passing away of the vapour, I covered her breast with a capsule of paper, and under it directed the pipe of the douche towards the nipple, upon which I caused the chloroform to act during the first part of the operation. In about a minute or so, she could permit me to press it between my finger and thumb without the least sensation of pain. I then caused the vapour to pass on the tumified part, under the paper capsule, which became influenced in a similar manner as the nipple, and could bear to be raised and examined with very little uneasiness. The woman now passed her own hand over and under her breast, and expressed herself very much relieved, and much more comfortable than she had felt for some days. When I next saw her she told me her breast had felt very easy during the remainder of the day on which the chloroform was applied to it.

The next case is inserted though rather out of place, but as cholera seems again about to visit us it may not be altogether void of interest, as showing the beneficial results likely to be obtained from the use of chloroform in that disease. I have used this medicine very freely in many of the cases of vomiting and diarrhœa which have fallen under my notice during the present season, and from what I have observed of its efficacy, in staying the irritability of stomach and restoring warmth to the patient, I feel much prepossessed in its favour.

CASE VII.—Mr. B., aged fifty-nine years, was attacked with cholera during the night of the 27th of August, 1853. He had no sleep, vomited everything taken into the stomach, passed large and frequent rice-coloured watery stools, and suffered severely from cramps in the abdomen, loins, and extremities, which caused him to cry out repeatedly.

I saw him at an early hour on the 28th. He was then very low and weak, countenance anxious, dark, and much sunken, pulse very small, but not much increased in frequency, surface of the body and extremities cold. The purging had ceased for a few hours, but he continued to reject everything from the stomach. I directed a mixture, which he immediately vomited, though given with the intention of quieting this distress. He had taken camphor dissolved in spirits, which

was of great comfort to him, but did not stop the vomiting. I now gave him a draught containing fifteen drops of chloroform in a little cold water, which he drank with great eagerness, and described it as the most reviving thing he had taken. Very soon after he fell into a quiet and refreshing sleep for two hours. On awaking, he felt much better; the stomach was quiet, and he expressed himself as being warm and more comfortable.

I directed a draught containing ten drops of chloroform in a little water to be given every two hours whilst the vomiting continued. However, the relief and comfort caused by the first was so great that he desired a second, and was given it, though he had no return of vomiting. The stomach remained perfectly quiet, and he was doing well until his friends unfortunately, at his own request, gave him a glass of ginger beer, which renewed the vomiting and purging. I now gave him acetate of lead and opium, ice, cold water, &c.; and to relieve the cramps I had the loins, abdomen, and extremities rubbed with chloroform, in the proportion of a drachm to an ounce of white wax ointment. This acted remarkably well, and not only produced the desired effect in quieting the cramps, but tended a good deal towards allaying the vomiting. In the course of a few days he was convalescent.

In observing the effects of chloroform as applied locally in the form of vapour in the above cases, I have endeavoured to obtain as correct a notion of it as possible, in order that a true estimate might be arrived at of its value as a remedy. Besides the cases here recorded, I have applied the vapour locally in various other forms of irritation. One of these in particular I was anxious to know its action in—namely, *pruritus pudendi*, a disease exceedingly troublesome and unpleasant to the patient, and for the relief of which she is often very reluctant to ask a remedy until forced to do so. I have used it in a case of this kind in the person of a very intelligent patient, who for a length of time had been annoyed, particularly on the approach of a menstrual period, by this distressing complaint, for which she had made use of various remedies. The vapour of chloroform, she informed me, afforded her relief from her uneasy sensations. On referring to one of the cases (Case v.) detailed, it will be seen that there was a very severe sense of scalding in the vagina, which seemed to depend a good deal on uterine irritation. Knowing the heat caused by the vapour of chloroform, I feared this patient should have suffered severely from its application; but, on the contrary,



she was quite relieved of it; so in *pruritus pudendi*, arising from a similar cause, the like results have been obtained as in her case.

If future investigation as to the effect of the vapour of chloroform when locally applied coincide with the results already observed in the series of cases herein detailed, it seems reasonable that the following conclusions be considered deducible:—

First. That in many forms of disease attended with pain or irritation the local application of the vapour of chloroform will frequently act as quickly in affording immunity from suffering as though inhaled in the usual manner.

Secondly. That the vapour locally applied is not attended with any unpleasant effects (save the sensation of more or less heat) either at the time or subsequently, and is therefore eligible under circumstances contra-indicating its use by inhalation.

Thirdly. That as a remedy, its local application is preferable to the use of opium and most narcotics in spasmodic and painful affections, particularly of the uterine system, owing, first, to its freedom from causing derangement of the digestive organs, and secondly, to its greater rapidity of action.

ART. XV.—*Observations on Remittent Fever in Ireland*. By THOMAS PUREFOY, M. D., Medical Officer of the Clough-jordan Dispensary and Fever Hospital, County Tipperary.

It is now nearly six years since I stated, as the result of my experience of the late epidemic fever of 1847, that the disease was distinctly remittent in its type (the word remittent was by a typographical error printed intermittent), and that its characteristic symptoms pointed out the existence of gastric and intestinal irritation to a severe degree, the diseased action having its seat in the gastro-intestinal mucous membrane<sup>a</sup>. An extensive experience, and careful observation of the disease from the above-mentioned period to the present time, serve but to confirm the opinion which I had then formed; hence it is that I am induced thus to direct the attention of the profession to what, in my mind at least, seems to be a new—or peculiar and specific—form of fever, consequent upon, and intimately connected with the disastrous famine and manifold sufferings of late years. My object being to give merely the result of personal experience, I shall

<sup>a</sup> Dublin Medical Press, November 17, 1847.

not of course refer to any of our numerous and most important authorities upon the subject of fever; and I trust that these observations may tend to excite a more general interest in, and investigation of, a subject of so much importance.

*Etiology of the Disease.*—On the first outbreak of the late epidemic, in the month of May, 1847, in Cloughjordan and its neighbourhood, the poor generally were extremely bad subjects for disease, having suffered for some time previously under the injurious effects of a wide-spread and most severe epidemic of measles, which proved fatal in many instances, and which was much aggravated, just then, by a distressing dearth of food, and the absence of the necessaries which are usually supplied by a comfortable home and good clothing. The spring season was unusually severe, and under the combined influence of bad weather, dearth of food, fuel, and clothing, the fever spread rapidly amongst the poor in the town and neighbourhood, at first mild and favourable in its progress; but, in some short time the symptoms, progress, and character of the disease underwent a remarkable change for the worse, becoming very protracted in most cases, and of a decidedly remittent type.

*Symptoms and Progress.*—On its first appearance the fever was characterized by suddenness of invasion, indicated by chills or rigors; pain of head, occasionally extending to the back and limbs; in several instances nausea and retching, with white furred tongue and heat of skin, occurred; whilst the intellect was clear and undisturbed, and the pulse seldom over 90. After a few days, marked remission of all the symptoms followed, such in some cases as to induce the patient to leave his bed, when a fresh accession of all his former symptoms—but in a much more severe form—reminded him that fever had *remitted*, not *ceased*, and that he was now to undergo a severe return of the disease, or, as it was very generally called, “*a relapse*.” During the summer months the ordinary symptoms of synochus were of so acute a character, and attended with so much of inflammatory re-action,—characterized by severe headach, flushed face, suffusion of the eyes, loss of rest, distressing pain of the back and limbs, with a full and resisting pulse, and the frequent occurrence of epistaxis,—that venesection was employed amongst the young and previously healthy patients in the proportion of about 10 per cent., and with the best results: a plan of treatment, however, which a variety of concurrent circumstances—as the protracted course which the disease soon assumed, attended with marked debility and frequently exhausting diarrhœa—soon rendered



quite inadmissible. The rapidity with which the disease spread, and its affecting many of the nurses engaged in attending the sick, would seem to place the contagious nature of this fever beyond a doubt.

The admissions to hospital in June much exceeded those for May; and in July the number of admissions was double that for June. With the increase in the number of the patients there was quite a proportionate increase in the violence of the disease; at the same time that the remissions and exacerbations were more distinctly and clearly marked. The chill, rigor, and sweating stage, now occurred every fifth, seventh, eleventh, or fifteenth day, in the majority of the mild and favourable cases; whilst in very many instances the disease ran an indefinite and protracted course of several weeks' duration, the exacerbation and remissions occurring so irregularly that five, fifteen, or twenty-one days might elapse between each recurrence of the febrile paroxysm. The lengthening of the period of remission was generally found to be a favourable symptom. As to crisis, it was very rarely observed, except in the few isolated cases of pure typhus, occurring chiefly amongst the upper class of patients, when, as usual, it appeared about the thirteenth or fifteenth day of fever. When the disease had been of three or four weeks' continuance, the exacerbations were always very severe, frequently either accompanied or immediately followed by violent retching or vomiting of a dark green fluid, headach, and pain of the back and limbs,—with profuse diarrhœa, the discharges being generally, in the first instance, of a bright yellow or orange colour, becoming, as the diarrhœa grew protracted, of a dirty drab or greenish shade, and mixed with mucus and small whitish flocculi. Profuse sweating, urgent thirst, and prostration of strength, which in a few instances proved fatal, invariably followed this stage of the disease; the diarrhœa was frequently premonitory of most severe and unmanageable dysentery. In the autumn of 1847 dysentery of a most aggravated and extremely fatal character spread extensively amongst the fever patients, whether treated in hospital or in their houses. So prevalent was this morbid condition of the abdominal viscera, that nausea and vomiting, with diarrhœa, occurred in 90 cases out of 100. Tympanitis or abdominal tenderness was rarely observed; gurgling upon pressure in the iliac fossa was often present. It is a very remarkable fact, that at this period not more than half a dozen cases of typhus, and, perhaps, ten or twelve cases characterized by cerebral symptoms, occurred amongst a registry of 260 patients, treated in hospital within a short

period of time. Maculæ were frequent at the commencement of the epidemic, but petechiæ infrequent.

*Complications and Sequelæ.*—The complications usually observed in the worst forms of the disease were, erysipelas, inflammation of the parotids; purpura; scorbutus; subacute gastritis; neuralgia, chiefly affecting the extremities; a morbid affection of the cerebellum and spinal marrow, supposed to be spinal arachnitis, and characterized by severe pain along the spinal column, with rigidity of the dorsal muscles, flexure of the head backwards,—the pain and suffering being intensely aggravated by every effort to move or change the position in bed; œdema of the ankles; general anasarca; and a most intractable and fatal form of dysentery, insomuch that amongst the unhappy subjects of it death was the rule, recovery the exception. After the lapse of a year dysentery disappeared altogether, and has been a rare disease in this neighbourhood since then. However, it is worthy of observation, that when dysentery had ceased its ravages, varied forms of skin disease became extremely frequent amongst the class of patients who had hitherto been its subjects; and yet more lately several young labourers have sought relief for that very rare and interesting disease, nyctalopia, which, without any known cause, affected them, coming on suddenly, and as abruptly and unaccountably taking its departure. In some instances the disease would remit or be absent for a week, again recur, and finally go off altogether. Many patients stated that they were liable to this affection in spring or autumn. These patients were scarcely ever sensibly relieved by medical treatment, but invariably the malady spontaneously disappeared after the lapse of some time.

*Post-mortem Appearances.*—All cases examined exhibited traces of gastro-intestinal irritation to a great extent,—in some instances producing ulceration in the colon and rectum. In fact, the history, symptoms, and progress of the disease, taken in connexion with the post-mortem appearances, proved that the abdominal viscera were the parts essentially engaged.

So much for the late epidemic, as to its outbreak, acme, and decline. This brief sketch I deemed to be essential, as introductory to my present subject, in order to show the origin, progress, and direct connexion of the *present form of remittent fever* with the epidemic of 1847. My experience and attentive observation of the disease during the past six years confirms me in the opinion, that a peculiar form of remittent fever followed upon the epidemic of 1847, and that the disease yet continues in the country, the same in essence, but modified by time and a variety of attendant circumstances.



To prove this position, it will be only necessary to detail as succinctly as possible the history of the great majority of fever cases as they are now presented to us.

The disease, as it now occurs, is most frequently observed in the spring and autumnal seasons, chiefly affecting the young or middle-aged, not remarkably prevalent amongst children. In almost every instance a period of general indisposition, or delicate state of health, precedes for some time the full establishment of the fever, indicated by total indisposition for business, depression of spirits, anorexia, creeping sensation of cold between the shoulders and along the spine, irregular action of the bowels, which are for the most part sluggish, whilst the urine is scanty and occasionally lets fall a reddish-coloured precipitate more or less abundant. The slightest form of the disease is marked merely by the occurrence of the chilly, hot, and sweating stages, recurring a few times, with irregular intervals of two or three days between the paroxysms, and seldom any local complication except headach, with nausea and disordered bowels; the patient, during the progress of this mild form of fever, being part of the time confined to bed, and occasionally up and dressed, resting himself upon a lounge or in an easy chair, if, perchance, in circumstances to enjoy these luxuries. In some instances, amongst the labouring classes, the patient will not submit to confinement to bed until the disease becomes protracted and severe. In one instance, which occurred in a medical student, I have known the first symptoms of this form of fever to disappear altogether upon his having changed the air and scene, by making a journey to a friend, about sixty miles from his own home.

The marked features, then, in this novel form of fever, may thus be summed up:—A previous state of slight, general indisposition, of days or weeks' continuance, followed by chilliness or rigors, and the usual symptoms of mild fever; deceptive symptoms of crisis occurring at an uncertain period of the disease, succeeded by apparent convalescence,—this amendment being of short duration,—when the disease re-appears in a more aggravated form; *these crises and relapses* (improperly so called) being *the true and peculiar characteristics* of the disease now described, which may be justly styled remittent in its nature, symptoms, and progress.

This disease has been differently denominated by different observers: called by some the famine fever; by others, relapsing fever; but to me it would appear that the most appropriate name is remittent fever; the remissions being as clearly marked as they are uncertain and irregular in their occurrence. The remission in the symptoms is a characteristic, and

at the same time a constant source of danger to the patient, since he is led to believe that a mere remission in the urgency of his symptoms, and a deceptive feeling of returning health, constitute a true crisis: accordingly, he gets up; but is soon convinced of his error by the recurrence of a severe rigor, and re-establishment of the fever in a very aggravated form. In most cases, much experience and an accurate judgment are necessary to detect the existence of fever during these remissions of the more active and manifest symptoms of the disease. However, the persistence of fever, in a decidedly mitigated but masked form, will be ascertained by a diligent and careful attention to and observation of the general symptoms. The expression of countenance will not be that of returning health; the appetite will be variable, fickle, and, at best, below the average of health; the secretions from the skin and kidneys defective or abnormal; perspirations will occur irregularly, whilst the bowels are sluggish and the discharges unhealthy: but the tongue and pulse afford the most invariable and correct indications of this peculiar febrile state of the system,—the former being, in almost every such case, whitish, furred, coated at the base, but at the same time moist, or covered with a viscid saliva, which is observed to become frothy at the angles of the mouth and along the surface of the tongue in whitish streaks from the root to the tip, whilst the patient is engaged in conversation or answering questions. It may be stated truly, that this organ never presents a perfectly healthy appearance during this truce with the more urgent symptoms, or stage of deceptive convalescence. As to the pulse, although decidedly reduced in frequency during these remissions, there will yet be found a sensible departure from its condition in a healthy state of the system, being either quicker in its contraction, irritable, and harder to the touch, or more full, resisting, and incompressible, than in health. It is truly a condition of pulse more easily recognised by the *tactus eruditus* than described by the pen to others. This favourable and delusive remission in the patient's symptoms will be interrupted by the exacerbation, or recurrence of the fever, in its most severe form,—generally upon some irregular day, as the third, fifth, or seventh, from the period of remission; returning whether the patient be carefully attended to in bed, or, perhaps, incautiously walking about his house, or even out airing.

I have frequently remarked that patients, even when they had been convalescent for weeks, were still liable to suffer under slight and evanescent attacks of feverishness; sometimes, perhaps, arising unaccountably, but more frequently following



upon some indiscretion in the way of taking improper food or excessive exercise. In one instance, a neighbouring patient, who had been convalescent for some time, walked into my house whilst suffering under severe rigors, that he might have directions as to what he was to do.

It is truly remarkable how long—even after good health is apparently established—this tendency to periodic febrile action, upon the slightest provocation, lingers in the system.

Very different symptoms may serve to indicate the approach of the so-called “relapse,” but, more correctly speaking, the exacerbation, or return of a paroxysm of this remittent fever. Unusual drowsiness; indisposition for society; loss of accustomed appetite; thirst, and confined bowels; a dry or clammy and uncomfortable condition of the tongue and mouth, with scanty, high-coloured urine, often become the precursors of this febrile re-action. Much the most frequent indications are,—restlessness, succeeded by a sense of creeping or very slight chilliness between the shoulders and along the back, which, progressing, passes into severe rigors, lasting for one or more hours, often followed by headach, at first mild, but gradually becoming severe and distressing, with or without tinnitus aurium, and decided aversion to light and noise; flushing of the face; increased frequency of pulse; distressing sense of cold; marked depression of spirits; whilst the skin is hot and dry, and the extremities cold. The cold and hot stages invariably end in the sweating stage, which is generally profuse, and, in one instance, a very full and fat subject was in the habit of saturating several night-shirts with perspiration upon every recurrence of the febrile paroxysm. When the different stages are imperfectly developed, and sweating scanty, the disease will be generally protracted to several weeks' continuance. Upon the subsidence of the antecedent hot and cold stages, the patient is left in a state of much exhaustion, whilst the skin becomes cool and soft; the pulse is much reduced in frequency; the tongue deeply coated by a creamy-looking secretion, and the urine probably loaded with an abundant orange or reddish-coloured deposit. This deposit is, almost invariably, very abundant at this period, notwithstanding the urine frequently becomes healthy in appearance during the apyrexial intermissions; so that this secretion becomes at once diminished in quantity and abnormal in quality, even for some days after the subsidence of each febrile paroxysm.

The progress of the disease is generally slow, varying from four to six or eight weeks, or even a much longer period in some of the most protracted cases. The duration of the illness

is seldom below four weeks, under the most favourable circumstances. In a great many cases, six weeks elapse before convalescence is established; and I have frequently had patients, both in hospital and in their own houses, confined to bed for a much longer time, during which period the several symptoms and stages of irregular remittent fever were most distinctly marked; often seriously aggravated by making rash attempts to shake off the disease by getting out of bed and trying to resume ordinary habits; or, in other instances, as the result of some error in diet or general treatment. I use the word "*irregular*" here, simply because the exacerbations were scarcely ever found—though under careful observation—to recur with any degree of precision or regularity with regard to time; returning, perhaps, on the third, fifth, or seventh days in the milder cases, these intervals being greatly prolonged in the most severe forms of the disease.

Invariably, as convalescence approaches, so the *remissions* in the disease become *prolonged*, and the *paroxysms shortened*, and much milder in their symptoms. I have found the disease to run the course now described, in hospital, in the cabins of the poor, and in the comfortable dwellings of the gentry, but little amenable to treatment as regards *its duration*, yet often grievously aggravated, or, in a few rare instances, brought to a fatal termination, through mismanagement or neglect.

Death seldom occurs, and when it does, would appear to be the result of some local organic affection complicating the disease, as having arisen during its course.

*Complications and Sequelæ.*—The most frequent complications are affections of the stomach, liver, bowels, and brain, manifesting themselves very much in the order here given. The head affection is peculiar, occurring, as it often does, at an advanced period of the fever, and characteristic when present: there are dull and deep-seated pain of the head, not strictly localized; vertigo; tinnitus aurium; aversion to light and noise; drowsiness, *without* any tendency to congestion of the conjunctivæ; delirium, or violent excitement, and an anxious desire to be left wholly undisturbed. Nausea or vomiting; obstinate constipation, with whitish or dark-coloured scybalæ, alternating with diarrhœa; and slow, oppressed pulse, frequently accompany this affection,—most justly exciting a fear lest some serious disease of the brain may arise, and requiring the utmost care and watchfulness on the part of the medical attendant to be enabled to state decidedly whether the head affection is primary and idiopathic, or merely secon-



dary and symptomatic of a disordered state of the abdominal viscera.

These obscure and alarming cerebral symptoms continue frequently for several weeks, and, in more than one instance, have I known them to continue for many months after the patient had been restored to a state of tolerably good health, and fitted to attend to the daily routine of worldly affairs.

The secondary gastro-intestinal complications are marked by their appropriate symptoms. A few cases—in the early history of the disease—have been observed to terminate suddenly and unexpectedly, with decided symptoms of subacute gastritis. Of these complications now mentioned, the derangements of the head and stomach occasionally become protracted long after convalescence has been well established, and then may properly be classed as sequelæ; in this way, these affections seem sufficient to prevent the restoration of thorough sound and good health. A young gentleman, of bilious temperament, attacked by this peculiar remittent fever, suffered throughout the whole of his illness under gastric and cerebral symptoms, unusually protracted and severe; the gastric symptoms finally terminating in that remarkable derangement of the stomach aptly named by Sir H. Marsh “the regurgitating disease.” So slowly had convalescence proceeded in this case, that, at the end of ten months, the patient yet suffered under an uncomfortable feeling in the head occasionally, whilst the stomach would sometimes reject a small quantity of undigested food without effort, or any distinct assignable cause for this perverted action. Notwithstanding the clear indications of gastric derangement which so often exist, the pointed, red-tipped, dry, brown tongue, and the urgent thirst of ordinary gastric fever, have been very seldom observed.

Diarrhœa, dysentery, and anasarca, sequelæ so prevalent when the epidemic of 1847 reached its acme, are now indeed very rare in their occurrence.

*The Morbid Anatomy* having been already briefly given, I shall here merely add, that the symptoms which now, in this advanced period of the history of the disease, present themselves, as clearly point to the lesions which examination after death has already detected, as they did at the outbreak of the epidemic in 1847; being distinctly referrible to gastro-intestinal irritation of more or less severity, and functional disorder of the liver.

The *Pathology* of this peculiar form of fever becomes much simplified through the aid of morbid anatomy; for whilst the

symptoms during life directly indicate a morbid condition of the digestive viscera, complicated by secondary or sympathetic affections of distant organs, the *post-mortem* appearances confirm the evidence which the existing symptoms afford. The sequence of this fever upon famine is not to be questioned; yet the direct connexion between them is by no means so obvious, although the conclusion seems inevitable, that, to a certain extent, they must be considered in the light of cause and effect. During the famine period in this country it is notorious that the want of food, its bad quality in many cases, the irregular or even excessive supply at some meals, as when Indian corn stirabout was supplied gratuitously at eating-houses; the long fasting and occasional gorging which I witnessed myself; together with the want of clothes and fuel; and all the complicated miseries of the poor, during even a temporary famine, formed a combination of circumstances well calculated to induce a morbid condition of the digestive organs primarily, which could not fail to mark very decidedly the symptoms, progress, and character of the fever, which so soon followed in the footsteps of famine,—a fever which, if not the direct result of famine, was yet unmistakably and very closely connected with it. It is not to be questioned that national calamities, such as famine and war, produce wide-spread influence, physical, mental, and moral; and, perhaps, it would not be speculating too far to suppose that fever, occurring under such circumstances, may be much modified in its character by the peculiar nature of the predisposing causes;—if operating upon the public mind merely in the way of fear or despondency, the prevailing epidemic being probably typhus; if the result of famine, and a combination of circumstances serving directly to act injuriously upon the digestive organs, then some complicated form of gastric fever, such as just now recorded. How many instances occur in daily practice to prove that a depressing influence, acting unexpectedly upon the mind of a patient ill of simple continued fever, may at once alter the disease to typhus! A previously healthy young man, whilst favourably passing through an attack of simple fever, was unguardedly apprised of some unfavourable occurrence in his worldly affairs, when he at once succumbed to the shock, and became the subject of overwhelming typhus fever, under which he quickly sank. Again, during the prevalence of the late epidemic, and whilst the Cloughjordan Fever Hospital was unusually crowded, a tradesman, of nervous temperament, who much dreaded fever, being engaged in repairing the roof of the hospital, and in the full enjoyment of pure air and sunshine,



sickened, went home, took to his bed, and very narrowly escaped with his life from an attack of pure maculated typhus, the crisis occurring on the thirteenth day, from which period he convalesced uninterruptedly, and soon regained perfect health. Thus, his illness differed altogether from that of the patients from whom it might be naturally inferred the infectious effluvia had arisen. Was the type of the disease influenced by predisposing causes, a nervous and susceptible temperament co-operating with an alarmed and fearful state of mind? The results would seem to justify this conclusion. In following out this mode of reasoning we shall be led to perceive the connexion apparently existing between the late visitation of famine, and the peculiar form of fever which so quickly followed. It is to be remembered that I speak of the disease only in reference to my own experience and observation; possibly the symptoms and progress described may have been peculiar to my locality.

It is a point of no small interest in the pathology of this disease that it directly induced, in its advanced stage, a form of dysentery—in my experience as fatal as Asiatic cholera; and when, after the lapse of several months, this fearful complication had altogether disappeared, that eruptive diseases of the skin should have become vastly increased in frequency. Are we justified in supposing that there was in some measure a transference of diseased action from one surface to another—from the mucous membrane to the skin? It is a fact also worthy of attention that nyctalopia has in this neighbourhood much increased in frequency during the last two years, owing, as the sufferers believe, to the indigestible diet of dry, hard, unleavened bread, which has supplied the place of the potato amongst the labouring class. I cannot deem these observations wholly irrelevant, since they go to prove the wide-spread influence of gastro-intestinal irritation, or morbid action of the abdominal viscera, in producing fever, modifying its symptoms and character, and also in laying the foundation for varied complications, in the way of disease of distant parts or organs.

The *treatment*, as in most forms of fever, must be modified according to circumstances,—as age, sex, previous state of health, stage of the disease, &c.; whilst it is most important to bear in mind certain peculiarities of the disease. First, its tedious course in the great majority of instances, however judiciously treated; and secondly, the constitutional inaptness which it so generally induces to bear a strictly debilitating plan of treatment. During a period of twelve or fifteen years venesection proved, in my experience, one of the most valuable

remedies available in the treatment of synochus or the ordinary continued fever, accompanied by high febrile re-action, to which our peasantry were so liable. Since the occurrence of famine, and the full development of the subsequent epidemic, venesection has been wholly inadmissible amongst the poor, and very rarely indicated even amongst the upper classes. The propriety of strict confinement to bed; due attention to the state of the skin, tongue, pulse, bowels, the secretory organs, and the morbid alterations in the several excretions, are practical points so obvious as not to call for comment.

But it is of much moment to make a judicious selection of remedies, avoiding at once all irritating or exhausting purgatives and the unduly prolonged use of diaphoretics, since both the intestinal mucous membrane and the skin are so markedly predisposed to morbid action. It is of vital importance to attend strictly to the existing condition of the several organs within the abdomen, and to endeavour by all means to re-establish the healthy discharge of their several functions. Diet is of no small importance in the management of each case, since nutriment in some form or other will be required from an early period; but it must be of such kind as to be at once light, digestible, and unstimulating, and given in small quantities at proper intervals. Occasionally local symptoms will arise, requiring more active interference, indicative of a congestive, subacute, or acute inflammatory affection of some one of the organs within the great cavities; of course, under such circumstances, leeching, cupping, and a strictly antiphlogistic plan of treatment will temporarily, be required, but should be only persevered in so long as existing symptoms may indicate the necessity for this mode of treatment.

I have repeatedly found both headach, and decided epigastric tenderness to be relieved, during an attack of fever of several weeks' continuance, by the repetition of a few leeches, and the subsequent application of a small blister; but this depleting plan has a fixed limit, beyond which it must not be pressed.

The progress of fever is often so protracted that the disease may well and advantageously be divided into the acute and chronic stages; a few remarks upon the latter shall close these remarks.

The lapse of time, a mitigation in the acuteness of the symptoms, and a modification in the progress of the disease, serve, with a degree of clearness, to point out the chronic stage. The pulse falls, perhaps, to the natural standard; the tongue is clean at the point and edges, but foul towards the back; the urine is



occasionally scanty and turbid; whilst chills and perspirations take place, with long intervening intervals. Under such circumstances, many are pronounced convalescent, until an aggravated renewal of the old symptoms sends them quickly back to bed again. The management of this period of the disease requires unceasing careful attention, in order to be duly aware of the subdued, but yet existing, febrile action under which the system labours, and also to meet with an appropriate treatment the truly deceptive complications which will now and again arise; none of which are more frequent or difficult of removal than those of the stomach and head. From all I have observed, it appears to me that the head affection is almost invariably secondary, and symptomatic of gastric disease. Leeching, blistering, and mercury, to ptyalism, in a mild degree, have been tried most guardedly and cautiously by myself, and others of more experience; and yet I am without any satisfactory proofs of the decided efficacy or entire appropriateness of this plan of treatment. However, the symptoms of congestion or subacute inflammation of the brain, which arise frequently towards the close of this disease, are often of so threatening and alarming a character that few would feel justified in merely temporizing, to the neglect of the efficient and active remedies within our reach. Our use of active remedies, under the preceding circumstances, should, of course, be very guarded, and their effects most carefully attended to.

The chronic-gastric symptoms—as pain, vomiting, or epigastric tenderness—seldom admit of leeching in the second stage. Repeated applications of very small blisters, or the local employment of croton oil, used frequently, are decidedly useful.

The whole class of vegetable bitters, with alkalies or prussic acid, the varied forms of chalybeate medicines, nutritive food, and the cautious use of wine, will severally be found beneficial when duly administered. The tepid salt-water bath also is a valuable adjunct in the chronic stages. Of cod-liver oil I have not had experience: but the all-important remedy, when it can be borne, is change of air and scene for several months continuously.

Having carefully observed the effects of quina in the advanced period of the disease, I always found that it appeared to check the paroxysms as to their return, and thus prolong the intermissions; however, when the paroxysms did return at the lapse of this prolonged interval, they were very severe. Yet I cannot doubt that the various preparations of bark, judiciously administered, are upon the whole favourable, in bringing the

disease to a more speedy termination, and inducing the stage of convalescence. Mild alterative doses of mercury form a valuable adjunct to the bark, to correct what has been well described by the late illustrious Graves as "*intermittent action of the liver.*" Certainly, the varied character of the stools, alternating as they do in the chronic stage, as to consistence and colour,—being *before* a febrile paroxysm, scanty, hard, and black, or of a deep reddish-brown colour, whilst during the intermissions they become abundant, and approach to the natural colour and consistence again,—would seem clearly to indicate a *suppression, followed by an increased flow of bile.*

ART. XVI.—*On the Type and Laws of Propagation which obtain in Tropical Fever, especially as developed in the Lowlands of Jamaica.* By T. ROSS JAMESON, M. D., Surgeon 91st Regiment.

THE opinions generally maintained regarding the rise, type, and progress of fevers originating in the tropics, or in localities which, at certain seasons, resemble the tropics, may be described as fourfold. It is alleged:—1st. That such fevers, whether purely telluric, or occasionally modified by atmospheric influence, are entirely of local origin, of one type, and wholly devoid of any self-disseminating property. Or, 2ndly. That such fevers, although justly characterized as endemic, identical, and generally non-contagious,—may yet, under rare and peculiar circumstances, exhibit a self-multiplying power. Or, 3rdly. That tropical fevers are not identical, but exhibit at least three well-marked varieties:—first, the ardent fever of continued form, the result of high temperature acting, after a short residence, upon the natives either of northern latitudes or of elevated supra-marine localities: second, periodic fever, the result of paludal miasm: third, the true yellow fever, of continued form, propagated by contagion solely, attacking those who have not previously had the disease, whether African or European; and owning no local connexion whatever. Or 4thly. That such fevers are threefold, and as described in the last paragraph, except that the true yellow fever is regarded as local in its origin, and, in its mode of propagation, non-contagious.

The leading aim of the following observations is to deduce the correctness of the first of these four opinions from pyrexial phenomena, chiefly observed in the lowlands of Jamaica.

In temperate climates, when a susceptible individual is



exposed to the usual exciting causes of pyrexia, the pathological phenomena thence resulting remain for an uncertain period without any marked alteration, a slight evening exacerbation alone excepted. This form of disease is called a continued or synochoid fever. Under additional circumstances, such as want of sufficient nourishment, exposure to fatigue and the vicissitudes of the weather, long-continued mental anxiety or grief, living in low-lying localities, and crowded, ill-ventilated buildings, &c., the same individual, during a peculiar atmospheric condition, of which moist cold forms the most conspicuous feature, is liable to be attacked with the symptoms of continued fever, yet remarkably modified by a peculiar and well-developed adynamic tendency: in fact the disease has thus become a malignant continued or typhoid fever, and such fevers often prevail epidemically.

In tropical countries, however, or in localities where a certain high degree of temperature has existed for a considerable period, when an individual labours under pyrexia, although the leading symptoms displayed in continued fevers may be present, yet to these there is superadded another series of abnormal phenomena, which may be characterized generally as resulting from the principle of periodicity. Usually the fevers of these localities complete their periodic movement or paroxysm in twenty-four hours. They display a cold stage, a hot stage, and a sweating stage, followed by a remission or an intermission; moreover, each paroxysm may be described as having a moment of accession, an ascent, a culminating point, usually of limited duration, followed by a gradual abatement, either incomplete and terminating in a remission, or complete and terminating in an intermission or stage of perfect apyrexia. Of the absolute nature of the cause producing these periodic phenomena we know nothing. It is usually termed miasm,—frequently, but, as I apprehend, incorrectly, paludal miasm.

That a marsh is a most fruitful source of this poison, so essentially telluric<sup>a</sup> in its origin, is readily granted; but it is by no means its only source; it has indeed been ever found most difficult to state positively the conditions absolutely necessary for its generation and subsequent accumulation: a certain permanent degree of temperature, however, it need not be very high, the scarcity of water where it has recently abounded,—provided that such scarcity be short of actual dryness, at least in the subsoil,—and a windless state of the neighbouring at-

<sup>a</sup> "Miasm," throughout the following observations is used in this restricted sense.

mosphere, appear among the main requisites. Hence there are few localities so prolific of the more intense varieties of periodic fever in the West Indies, as a dry water-course, running along the leeward base of a precipitous mountain.

As the continued fevers of temperate climates sometimes give place to the malignant, continued, or typhus, so the simple periodic fevers of warm localities are exalted to the malignant periodic or yellow fever.

The question has hence arisen: Is miasm—a telluric poison, of course, in a concentrated form—the sole cause of this formidable disease? Or, is there another, an atmospheric cause, a true “malaria,” probably depending on an abnormal electrical distribution, superadded, as necessary to develop its existence, at least in an epidemic form? We have not at present data to answer this question decisively; I am, however, inclined to lean to the latter hypothesis, and to believe also that this malaria, in combination with other causes, is obscurely connected with the origin and progress both of plague and malignant cholera<sup>a</sup>. Not to dwell upon subjects so uncertain, it is here sufficient to state,

<sup>a</sup> I would wish to explain here, even though, perhaps, obnoxious thereby to the charge of prolixity and vain repetition, why at one and the same time I would uphold the close affinity between all telluric tropical fevers, amounting in fact to the identity of such affections, and yet freely admit that an extra cause is most probably existent during the occurrence of those irregular outbreaks of malignant febrile disease so appalling in their widely spread severity.

First, then, in all tropical countries, or in countries where at certain seasons the peculiarities of tropical districts are occasionally present, miasm, a telluric poison, is elaborated in greater or less quantity.

Secondly, this miasm acts more or less prejudicially on all, but especially on the European constitution.

Thirdly, hence when an inhabitant of such localities is exposed to the usual exciting causes of pyrexia, the morbid phenomena that ensue exhibit, *inter alia*, the features of tropical disease, more especially the periodic alternation of morbid process, and the fatal cases terminate occasionally in sero-cerebral effusion; far more frequently, however (at least in the north-western tropics), in organic lesion or alteration of the gastro-enterital mucous tissue with the hemorrhagic discharges popularly termed “black vomit.”

There are, however, exceptions to this statement. Cases are recorded in which death apparently occurred by cerebral affection, and yet no effusion was observed in *post mortem* examination; also others in which black vomit was present, but unaccompanied by either softening or any other lesion of the gastro-enterital mucous tissue.

Fourthly, in these regions this form of febrile disease, inasmuch as it is produced by a universally spread telluric source, is necessarily endemic, and from different causes, such as increased virulence of miasm, &c, it is occasionally epidemic.

Fifthly, at irregular periods, however, a peculiar and peculiarly malignant epidemic is occasionally developed, which probably results from the existence of a certain atmospheric condition, a real “malaria,” possibly the effects of an abnormal electrical distribution.

Sixthly, the action of this febriferous atmosphere appears to be indirect, that is, its agency is manifested chiefly by a morbidly increased susceptibility of perceiving the effects of miasm on the part of persons living in the malarious locality; the atmos-



that the practical bearings of the question on either supposition remain unaltered. The additional cause, if another indeed there be, manifests its existence only in two ways: First, the symptoms of this fever, apparently identical with other remittents, are yet much more difficult of management; and, secondly, these symptoms, when viewed collectively, betray a singular depression of all the powers of organic life. Notwithstanding the above manifestations, however, providing death do not ensue during the initial paroxysm, or directly after, during the collapse from its effects, the periodic character of this malignant fever, and therefore its identity with the simpler fevers of type, is abundantly displayed.

It occasionally happens that in certain protracted cases, and also in others of severity at a very early stage, especially if occurring during the autumnal and winter seasons, the remissions become gradually less apparent, and then disappear entirely. The disease, thus masked, presents a series of equable phenomena, somewhat resembling the course of a synochoid fever. The absence of the evening exacerbation, however, which is invariably present in synochoid fevers, at once points out an essential difference between them and the cases in question. It will appear from the following considerations that such fevers are in fact decidedly periodic. They present themselves only in localities where periodic fevers are endemic. Their early history often shows inequality of the pyrexial features. They can sometimes be resolved into their legitimate type by remedial agents, such as quina and its salts. Contemporaneously with their appearance other cases occur, evidently owing to the same endemic or epidemic cause, and exhibiting well-marked periodic phenomena. Sometimes it is said the periodicity is masked in all the cases occurring among Euro-

pherie cause does not appear to act directly upon the virus itself, the virulence of which may remain unaltered.

Seventhly, the following queries naturally suggest themselves:—Is it possible in cool healthy seasons, and in certain districts of the drier description, where there is barely sufficient moisture present on ordinary occasions to extricate miasm, that this poison may for a limited period remain undeveloped, and yet the febriferous atmosphere itself may be present? Moreover, where this presence of malaria and miasm does occur, what will be the type of fever at such seasons? Again, in a perfectly clean and perfectly healthy ship at sea, where, of course, there is no miasm although within the tropical latitudes, if the febriferous atmosphere exist, what will be the form of pyrexia, if any, resulting?

Of my own personal knowledge I can furnish no reply to these queries. The conjunction alluded to on the first supposition must be so rare as to render any discussion on its effects of little practical utility. Neither do I think the second likely to be frequent. I should, however, be inclined to suspect that the form of disease so produced would not be altogether identical with that popularly styled yellow fever.

peans. Among the coloured classes, however, this is never the case, as far, at least, as I am aware.

The pathological conditions present in such masked fevers may, according to M. Maillot, be explained by remembering, that each paroxysm must be attended with a certain degree of local or general congestion,—that, at first, such congestions disappear entirely between the paroxysms if there be a period of apyrexia, partially if there be only a remission; but if the paroxysms occur with rapidity, the capillaries are unable to dispel all or even the greater portion of the blood accumulated on each febrile accession; therefore the tissue cannot resist the congestion so often renewed, and the irritation, as it has been happily expressed by Maillot, becomes “anatomically fixed.”

It follows, as a corollary from the above, that the primary synochoid fevers of temperate climates differ *in toto* from the masked periodic tropical fevers which secondarily simulate their “continuity of morbid process.” Their origin, progress, and pathology, are alike different. On the other hand, the absolute identity of these tropical continued fevers, as they are erroneously termed, with the usual periodic fevers of warm latitudes, appears to me unquestionable, and in a practical point of view is of great importance. These fevers, treated according to the old methods, whether antiphlogistic, stimulant, mercurial, or saline,—unlike the fevers of northern Europe they were thought to resemble,—proved quite intractable. Quina and its salts were exhibited, however, in Jamaica; first, I believe, in 1834, on the anti-periodic principle; afterwards, in 1839<sup>a</sup>, on the specific principle. And thus the said fevers were either reconverted into the open periodic type, and then cured, or were directly cured with an almost magical rapidity.

There is a class of fevers not yet adverted to. I mean such as are developed on board a vessel previously healthy, under circumstances which appear to warrant the conclusion, that the “origo mali” exists in the vessel itself; or, if of external origin, is at least not telluric merely. To these curious outbreaks of disease may be ascribed much of the unfortunate difference of opinion that still exists, regarding the origin and nature of yellow fever, and also regarding the laws which regulate its propagation. Of these ship fevers (if I may be allowed the expression), there are five varieties. First, this fever may occur in temperate latitudes during cold, foggy, wet weather,

<sup>a</sup> I gave quina on the specific principle in cases of endemic fever in 1839; I had, however, no opportunity of testing the merits of this, *the true quina system*, in malignant fever till February, 1841.



in a ship, perhaps, short of provisions, overcrowded, and containing in itself certain conditions likely to cause pyrexia,—such as foul ballasting, peculiar condition of timbers, &c. &c. In fact, the combination of causes producing what Dickson and others have quaintly termed, a “ship marsh.” This fever is synochoid, usually adynamic, and, therefore, in some points resembling typhus. Secondly, fever may occur, under similar circumstances, after entering the tropical seas, but before approaching tropical land. This may also assume a continued aspect. It is a disease, however, varying considerably in its symptoms, but frequently characterized, in its earlier stages at least, by high arterial action. Thirdly, fever may occur in a clean ship, in tropical seas, before it has reached any land. This is a good specimen of the real ardent continued fever. The fourth variety altogether differs from the three foregoing. When a man of war, a guard-ship for example, has been long at anchorage in an unhealthy tropical harbour, such as Port of Spain, Port au Prince, Port Royal, Jamaica, English Harbour, Antigua, &c., &c., it appears from experience that such a ship, although otherwise in itself free from any cause likely to produce disease, becomes, as it were, saturated with miasm, attracted from the adjoining shore. Hence a predisposed individual, going on board within the tropical latitudes, is obnoxious to an attack of periodic fever, even if he should never have approached, far less landed, on a tropical coast. There is yet a fifth description of ship fever. This is developed by the simultaneous existence in the same vessel of the essential conditions present in the first and fourth varieties, viz., the primary unclean state of the ship itself, with the presence therein of miasm, secondarily accumulated during a lengthened stay within the tropics. This conjunction gives rise, it is said, to a somewhat anomalous disease, partaking, some think, obscurely of the character both of typhus and periodic fevers,—at any rate most malignant and most fatal.

The general principle of periodicity, “the disposition to remit, which is constant in the fevers of Jamaica”<sup>a</sup>, has already been adverted to; but, in order fully to understand the type of the fevers of Jamaica, it is now necessary to specify one of the most remarkable complications of this great principle,—that is, the tertian periodic movement. An ordinary paroxysm of a fever of type has its accession and intermission, or its accession and remission, within twenty-four hours. Therefore, in remittents and double tertians this phenomenon

<sup>a</sup> *Vide* Hunter, p. 83.

is usually of diurnal occurrence. Sometimes, however, there is an additional periodic feature in both these varieties. The febrile phenomena may be regarded during a double period of forty-eight hours; and then it will be observed that they are clearly more severe during the first period of twenty-four hours than during the second period; that they are therefore more prominent during alternate days; more prominent usually on the first, third, and fifth, than on the second, fourth, and sixth days: that, in point of fact, the first diurnal period may be regarded as an accession, and the second as a remission. Hence it follows that, in such cases, there are simultaneously present, as it were, two distinct cycles of febrile periodic movement. There is, moreover, a very important variety occasionally observed in this periodic phenomenon, which may be styled the semi-tertian. An ordinary tertian intermittent has one paroxysm within twenty-four hours, and on alternate days; a duplicate tertian has its two paroxysms within twenty-four hours, also on alternate days; a semi-tertian, however (the *ἡμι-τριταῖον* of the Greeks<sup>a</sup>), has its three consecutive paroxysms, usually within thirty-six hours, the final twelve hours being therefore apyrexial. Hence some modern authors have styled this fever a triple tertian. The paroxysms generally, though not always, are arranged as follows:—About the afternoon of the first day there is a paroxysmal invasion, lasting from six to eight hours, with an intermission, varying from six to four hours in length. A second paroxysm and intermission of the same duration appears on the second day; then a third paroxysm, sometimes, though not always, milder than the two preceding, on the second night, followed by an apyrexial period of twelve or eighteen hours, which terminates on the afternoon of the third day. This completes the interval of forty-eight hours. The semi-tertian variety, as thus described, appears to me to afford the true key to many of the anomalous features presented by the more severe fevers of Jamaica. Imagine that the local cause producing a semi-tertian intermittent has become considerably aggravated,—what then ensues? The three paroxysms become sub-intrant; ere one is finished another has commenced; they become “extended or doubled,” to use Sir John Pringle’s expression: in point of fact there is but one paroxysm of thirty-six hours, followed by a remission of twelve

<sup>a</sup> I am aware it may be affirmed that the *ἡμιτριταῖον* should be regarded as rather identical with the double tertian than with the modern semi-tertian of the first class, or triple tertian, as it is now sometimes called; both types are, however, closely allied, and often run into each other. The prolongation of the first paroxysm at once transforms the latter into the former. It is therefore a matter of very little moment.



hours, instead of an apyrexial period. This is a semi-tertian remittent, and it is a most fatal disease. Finally, imagine the local cause has become still more intense: the thirty-six-hour paroxysm is then directly followed by collapse and death; sometimes even earlier, for the seizure may be cut short fatally at the twenty-fourth, eighteenth, or even at the twelfth hour! Dr. Fordyce, it would appear, was not far wrong when he styled yellow fever the “semi-tertian of warm countries.”

The fevers that prevail in the lowlands of Jamaica, whether endemic, simple epidemic, or malignant epidemic, are invariably periodic. In the first instance this phenomenon can scarcely be overlooked. In the second and third, especially in the latter, it is occasionally either cut short previously to its full development, or masked in the manner already described; and in both these circumstances, especially in the former, there is displayed a remarkable adynamic tendency. In all cases proving fatal, black vomit is, on the whole, the most unvarying symptom; it is either thrown up before death, or discovered on post-mortem examination. Suppression of urine, severe cramps, hunger, and blueness of skin, with extreme cold, are occasionally noticed in the worst cases. In some instances, also, death occurs suddenly by a sort of apoplectic seizure. The actual type of fever appears to be influenced, during different years, by the unknown or obscure causes that alter the quantity and quality of the existing miasm. It is also modified during the same years, first, by varieties of race and by the varying of length of residence; secondly, by the precession of the seasons; thirdly, by supra-marine elevation; and fourthly, by the peculiar nature of the locality itself in which the fever exists.

I. The inhabitants of Jamaica, for our present purpose, may be classified as follows:—First, Creole negroes; secondly, African negroes; thirdly, coloured Creoles; fourthly, white Creoles, who have never left the island; fifthly, white Creoles and other whites who have resided in the lowlands several years; and sixthly, white new-comers of all kinds. Of these six classes, the first is, *cæteris paribus*, the most liable to the ordinary mild tertian, and the least liable to the malignant epidemic. Conversely, the last class is the most liable to this malignant fever, and the least liable to the mild varieties of intermittent. So also with the intervening classes.

II. The influence of the seasons is exemplified as follows:—During the early spring mild intermittents are seen; towards the end of spring and during summer complicated intermittents and remittents appear,—the latter assuming a more severe form in the autumn, and reaching the greatest intensity to-

wards mid-winter. But any sudden change in the weather, especially during the rainy season, is frequently followed by an equally sudden change in the type, severity, and frequency of febrile disease. Imagine Up Park, Jamaica, garrisoned as formerly by ten or twelve companies of Europeans,—probably above 700 rank and file,—one half of them wholly unseasoned, and accompanied by the usual large complement of women, children, and followers. It is the May season; the rains have been somewhat lighter than usual; the early spring has been comparatively a healthy one, and the admissions into hospital have been limited to a few mild intermittents among the older soldiers. Suddenly the wind ceases; the land-wind blows at night slightly but steadily from the west; the sea-breeze disappears entirely; the sun is singularly powerful, and the thermometer during a great part of the day stands above 85° or even 90° F.<sup>a</sup> in the shade. Within forty-eight hours camp followers present themselves with intermittents, invariably complicated in type. Among the soldiers, we have at once from ten to twenty admissions. All labour under pyrexia. One case, perhaps, is only an intermittent, but either a well-marked semi-tertian or prolonged double tertian. The great majority, however, are remittent, and some of them, too, assume the dreaded semi-tertian type. One case yet remains to be described; it is of most malignant form: in seventy-two hours it terminates fatally! Next day the admissions continue; they are twice as numerous and ultimately twice as fatal. Every one fears it is the commencement of a frightful epidemic. As suddenly as before, however, the weather changes; the “seasons,” in West India phrase, recommence; the thermometer falls some twenty degrees; thunder and lightning, with severe squalls, supervene; heavy constant rain prevails, with a strong sea-breeze from the south-east, lasting steadily for three diurnal periods, and when the land-wind re-appears by night, it blows from the north or north-east. By the fourth day the fever has altogether disappeared, and from time to time a few sporadic cases of mild tertian present themselves as before.

III. Supra-marine elevation influences the type of fever in a most remarkable manner. In Jamaica are *ever* to be seen the same *territorial* morbid phenomena (if the expression may be used), so graphically described by Inspector-General Dr. Fergusson, as witnessed by him in St. Domingo. At the sea level malignant fever prevails; ascend—you encounter cere-

<sup>a</sup> During 1837 it frequently reached 97° in my residence at Kingston.



bral and gastric remittents or complicated intermittents; a little higher, you find the ordinary intermittents,—perhaps dysentery, with ulcers of miasmatic origin; and lastly, you reach the central table-land, where there is ever a perfect immunity from all tropical disease. The configuration of Jamaica enables these varying zones to be traversed in a single day's ride. Hence it would appear that, *cæteris paribus*, miasm varies in intensity directly with increase of temperature.

IV. At the sea level two descriptions of localities exist in which the usual forms of disease vary considerably. First—There is the ordinary marsh, where well-marked intermittents are more frequent than in any other lowland site during the earlier months of the year. Secondly, there is a species of dry, sandy soil, lying usually on rocks of coral formation. These exist either as islands, termed “Keys” in West Indian parlance, or in the form of a long, narrow peninsula. In such spots intermittents are very rare indeed, except among the negroes. The usual endemic is a remittent; and when epidemic and malignant, the periodicity is more frequently masked than in any other locality: yet if high land arises in the immediate neighbourhood of these sandy spots, there intermittents are observed in the usual proportion; therefore, it is reasonable to conclude that the miasm generated in such localities is identical in essence, although not in virulence, with the miasm which springs from the edge of the marsh. It would also appear probable that, *cæteris paribus*, and within certain limits, miasm varies in intensity inversely with increase of moisture. It may be added, that the presence or absence of rain influences the comparative salubrity of these two different localities. During an ordinarily dry year the rocky or sandy soil is usually healthy, whilst the marsh nearly dry evolves the most intense febrile miasm. But during a wet season the marsh, converted into a lake, becomes innocuous, whilst the “Key,” temporarily supplied with a sufficient moisture, in its turn, generates febrile disease. Hence, also, we often observe that when the leeward becalmed bases of precipitous hills, however rocky or sandy they be, prove to Europeans almost uninhabitable,—periodic fevers either abate or disappear from the neighbouring paludal regions, in which they generally abound<sup>a</sup>.

In thus describing the above four circumstances which tend

<sup>a</sup> These considerations tend to explain the apparent differences in the fevers of the drier islands, such as Barbadoes, and the more marshy localities, as Demerara, &c., yet even in the former station Fergusson reports the occurrence of well-marked remittents. So also M'Arthur.

so much to influence the type of the Jamaica fever, I would not be understood as announcing dogmatically fixed and invariable rules, but merely as indicating general principles, the correctness of which can there be traced by an ordinary observer with sufficient facility.

The endemic fever of Jamaica is, strictly speaking, an intermittent. By an intermittent I understand a periodic fever, in which there are distinct apyrexial periods, no matter how short or how long, such periods, as a general rule, being perceived during each diurnal revolution.

Among all classes except white new-comers this fever is usually a simple tertian; sometimes a duplicate tertian; less frequently a quotidian or a double tertian; still less frequently a quartan. Among white new-comers, however, semi-tertians of the first class (as formerly described) are not unfrequent, though perhaps a prolonged double tertian is the type assumed by this fever generally. The paroxysm is then of diurnal occurrence, lasting from twelve to twenty hours, or thereabouts: this accession (though by no means invariably) takes place early in the morning, and the apyrexial period appears after midnight. The cold stage is almost always very short, sometimes not exceeding many minutes: the paroxysm on alternate days, generally the first, third, and fifth, is, in a marked degree, more violent than on the second, fourth, and sixth days. This peculiarity indicates the type of the disease which otherwise might possibly be considered doubtful. In more severe forms, as the disease progresses, the apyrexial period frequently becomes shorter, and sometimes disappears entirely: the case is thereby converted into a tertian remittent. When the fever proves fatal, death may ensue on the fourteenth day, or later,—rarely before the seventh; and, as a general rule, is attended with the characteristic black vomiting. Relapses are not unfrequent, and are sometimes troublesome, especially if not treated with quina.

When fever prevails epidemically at Jamaica it is generally remittent; by which is meant a fever which exhibits usually, though by no means always, in twenty-four hours a distinct febrile abatement, of uncertain duration, but no apyrexial period.

Such a fever is either simple or malignant—the former occurring, on an average, about once in three years; the latter at longer but most uncertain intervals.

It sometimes happens that an epidemic owes its existence to causes only present in particular spots:—such as the unusual number of predisposed persons present; change in the di-



rection of the wind; obstruction to the usual outlets of some neighbouring stream, &c. &c. The disease is then circumscribed: it appears as the simple epidemic. It visits the locality in a manner sufficiently severe, whilst in the rest of the island no pyrexia is found save the ordinary endemic intermittent. With the malignant epidemic this limitation is rarely witnessed. Its ravages are almost universal up to a certain supra-marine elevation. The ordinary laws observed by periodic fevers are, in many respects, put aside. It springs up at the same time in several distant localities: sometimes almost all seem amenable to an attack; nay, it is said, in some rare cases the Creole negro himself is not exempt from seizure. Instances of the disease presenting no very prominent symptoms prove quite intractable, and the climax of the epidemic invasion is marked by the occurrence of those appalling cases in which "life is broken by a single shock;" yet, perhaps, so little is the apparent urgency, so little is even felt, that the victim himself does not apply for aid; or does so, if a soldier, with the half-dread of being possibly reprimanded for malingering.

The simple epidemic, then, is a remittent fever, consisting of an uninterrupted series of paroxysms. These paroxysms, although irregular both in their periods of accession and remission, usually last only twenty-four hours, and exhibit pretty distinctly the four following phases:—First, from the accession to the culminating point. During this period the febrile symptoms are constantly increasing. Second, the height of the paroxysm when the symptoms remain unaltered. Third, the progressive decline. Fourth, the remission, properly so called, when the febrile symptoms, although still present in a diminished degree, remain quite stationary. As a general rule, the severity of the fever may be tested by contrasting the lengths of the second and fourth stages;—it varies directly as the length of the former, inversely as the length of the latter.

But this epidemic fever is also tertian, and, therefore, if the period of forty-eight hours be regarded, it will appear that the first period of twenty-four hours is, *relatively*, a paroxysm; the second period of twenty-four hours, *relatively*, a remission.

Again, this fever is to be described as cerebral or gastric; the former prevailing in summer, the latter in autumn and winter. In both, if the disease be allowed to proceed unchecked, the diurnal remissions become less distinct, and, in some instances, disappear entirely. Even in these cases, however, although the four phases above described give way to morbid phenomena of a continued character during the quotidian period, still, in the great majority the tertian periodic law is vin-

dictated by the varying severity of the disease on alternate days. There are, it is said, exceptions to this rule; cases where all periodicity is masked; but such are, indeed, wonderfully rare.

As the season advances, the epidemic becomes more or less adynamic in its general character, and the mortality increases in the same proportion. The deaths are attended with the characteristic black vomit<sup>a</sup>, either thrown up during life, or found in the stomach afterwards. Relapses are less frequent than in the endemic. The fatal issue is usually about the seventh day, sometimes on the night of the fifth, and rarely earlier; sometimes on the ninth, rarely later.

The principal anomaly in this fever is the occasional length of the remission, which, breaking through the rule that limits its duration to a period of less than ten hours, sometimes less than two, has, upon some occasions, been known to extend as far as thirty-six hours. In these cases the forty-eight hour period no longer consists of two distinct paroxysms of different intensity, but of one paroxysm only. Generally the latter period of the remission approaches nearly to a state of apyrexia. It not unfrequently happens also, if such cases be treated without quina, that the second febrile accession is longer and much more severe than the first.

The converse form of this anomalous fever is also not unfrequently witnessed. The paroxysm then extends to thirty-six hours, and the remission to the remaining twelve. This may be regarded, as I have already stated, as a semi-tertian remittent. It is *always* a formidable disease; and if the initial paroxysm proceed unchecked by quina, it usually causes organic lesions sufficiently extensive ultimately to destroy life.

During an invasion of the malignant epidemic fever, the type of the disease is still periodic, although the full development thereof is sometimes prevented by death ensuing, as we have already remarked, in the first paroxysm, or very shortly afterwards. This fatal termination occurs during the initial paroxysm, by a species of apoplectic seizure, or, after the completion of the paroxysm, by exhaustion. In both these instances the depression of the powers of organic life is most remarkable, although in the former there is, just at the accession, a slight *apparent* inflammatory stage.

Among the many anomalous forms of malignant fever the following appear to be, perhaps, the most notable:—First, the prolongation of the initial paroxysm. It is said that, in some

<sup>a</sup> The exceptions to this rule which, in Jamaica at least, are rare, occur mostly in the cerebral fever.



instances, its duration actually reaches to seventy-two<sup>a</sup> hours, then a speedy collapse and death. These cases are *very* rare, and are found only when the great local cause of the disease exists, during a very hot season, in a very dry locality, and where young, unseasoned, plethoric Europeans, of sanguine temperament, happen to be present in considerable numbers. Secondly, a more common occurrence is, that the first paroxysm, of whatever length, be succeeded by a long remission (say twelve hours), followed by a second paroxysm, distinct though *apparently* of a mild form, then collapse and death. Or, thirdly, that the initial paroxysm be succeeded by a short remission, probably under four hours, then a second paroxysm, sometimes apparently of increased severity, followed, after a long remission, by a third, but *no more*. Fourthly, the worst description of all being those cases which have been already alluded to, as negatively characterized by the absence of all symptoms, except, perhaps<sup>b</sup>, a rather bluish cast of countenance, with slightly anxious expression; a feeling of lassitude and occasional tightness across the chest; a singularly compressible pulse, which is slower than natural, and also intermittent; black vomit and death, all in twenty-four, eighteen, or even in twelve hours.

Simultaneously with the presence of these perhaps anomalous fevers, instances of a somewhat milder form are present, in which the regular periodic form of this deadly disease is most amply vindicated. Relapses are comparatively rare, and death seldom ensues later than the fifth day, usually on the third, sometimes on the first. Except in the cases of apparent apoplectic seizure, black vomit is invariably found.

In the preceding remarks the Jamaica fevers have been arranged as endemic, simple epidemic, and malignant epidemic; but as some of the causes previously detailed, which modify these various forms, are almost invariably present, it follows that the different varieties of this disease are greatly intermingled; thus, whilst fever of a severe form is destroying the garrison at the rate of fifty per cent. in six months, the simpler form may be epidemic among the white Creoles; whilst among the black inhabitants we find only the ordinary intermittents. The observations made by Inspector-General Dr. Fergusson and by Dr. M'Millan, in the course of their military career, and also by Dr. Musgrave of Antigua, in his civil practice, I can, of my

<sup>a</sup> Hunter reports one such case.

<sup>b</sup> When, in addition to these features, an "icy coldness" is observed over the body, the term "algid" has been happily employed as descriptive of this form of the disease by Gillkrest, Maillot, and others.

own knowledge, verify. I have seen at one and the same time in the same hospital, and ostensibly produced by the same cause, fevers of every grade, from the mildest tertian up to the malignant disease just described. I may add, too, it would have been impossible, in viewing the various intermediate grades, to state positively where one form of fever ended, and where the other began.

I have thus described, to the best of my ability, the characteristic types of the various forms of the lowland fever of Jamaica, as witnessed during a residence exceeding eleven years. It follows, if my description be correct, that one principle, and one only, can explain all their apparent anomalies; and that is their unvarying periodicity. Moreover, if I be further correct in deducing periodicity, as the result mainly of the morbid agency of the poison we call miasm, it also follows, that all these lowland fevers are miasmatic, and therefore have one origin, of one kind, differing only in degree.

It may fairly be deduced, as a corollary from the above theorem, that no fevers, identical with the synochoid varieties of temperate latitudes, exist in the lowlands of this island; and, therefore, if any fever be therein at any time present, deserving the appellation of "yellow fever," "bulam fever," "vomito negro," or any other similar designation, such fevers must be periodic, and therefore one in type with the usual island endemic.

I shall next proceed to speak of the type of malignant fever elsewhere, especially in the West Indies generally, in Western Africa, North America, and Spain, but this part of the subject must be discussed very briefly.

As far as my reading extends, it appears that the majority of authors, who have themselves witnessed epidemic invasions of malignant fevers in warm countries, give a description of their type very similar to that detailed in the preceding pages.

In support of this periodicity being observed as a leading feature in this disease in the West Indies generally, military and naval authorities are so numerous that it is unnecessary to particularize any. In civil life I may mention Dr. Musgrave of Antigua<sup>a</sup>, and Dr. Dyett of Monserrat. The latter gentleman, in describing the epidemic of 1821, details an interesting case of intermittent fever, which terminated fatally on the fifth day with black vomiting.

In Western Africa Bryson and others support a similar

<sup>a</sup> In 1816, at Antigua, many cases commenced as intermittents, and some terminated fatally with all the symptoms of yellow fever. Severe intermittents were then observed among the blacks.



view: the former says, in the black vomit epidemic at Fernando Po, 1829, "very distinct remissions" were present, and, in some cases, "daily apyrexia."

In America the celebrated name of Rush at once presents itself. This author describes, in a most graphic manner, the periodic character of the malignant epidemic of 1793; and he also notices the termination of tertians by the fatal black vomiting. Ramsay, Davidge, Lining, &c., follow in the same strain.

In Spain Arejula describes the periodic character of the fever as there witnessed; and his statements are confirmed by Gonzales, Velasquez, Balmis, Flores Moreño, Alphonso de Marie, &c.

In Gibraltar Dr. Gillkrest seems to characterize, in like manner, the fever of that station; and he, as well as Dr. Bancroft, quotes a host of competent observers<sup>a</sup> who also witnessed febrile remissions during the various epidemic invasions in that locality.

In Minorca, Cleghorn describes intermittents with coffee-grounds vomiting, &c.

Lastly, it is worthy of remark, that, wherever yellow fever has been epidemic, there the existence of well-marked remittents, during ordinary years, stands attested by numerous respectable authorities.

Now, where all parties are equally trustworthy, in a disputed point like the present, they who make a positive assertion, as to the existence of a fact, must be held to have so far proved their position. Hence, I am justified in concluding that, in the countries thus referred to, as in Jamaica, the malignant epidemic fevers were periodic, and therefore of miasmatic origin.

True it is, that authorities, fewer in number, still equally trustworthy, have made the negative assertion, that they did not see remissions, far less intermissions. Now it happens that remissions are occasionally very short and easy to be overlooked. I have known them to be far less than one hour in length, and to present themselves just before daybreak. Hence in such cases, unless the patient has been watched during the whole twenty-four hours, in point of argument, after the previous positive testimony, I am justified in at least suggesting that remissions may occasionally have passed unnoticed. Granting, however, that these observers can declare their patients to

<sup>a</sup> Especially Mr. Amiel, who states of epidemic fever, that "a milder form has long been known here under the denomination of bilious remittent, as is averred by all the medical men acquainted with the place."

have been attended professionally by some one during the whole diurnal period, and that they are accordingly prepared to verify the continuous character of the cases in question; still, taking into consideration that other observers, witnessing the same or similar epidemics, did “*bona fide*” see remissions, I think I am thereby authorized in at once maintaining the periodic character of these fevers, and in assigning the cases in which remissions did not appear to the category of those already described as the masked fevers in Jamaica, Northern Africa, and elsewhere, “simulating a continuity of morbid process.”

Now, as to the laws which regulate the propagation of the febrile disease generally.

Under certain circumstances, owing to some unknown agency, a virus is, or rather has been, eliminated, possessing inherently a twofold property. First, it is able, in a predisposed living body, to produce certain pathological phenomena; and, secondly, to create, through the medium of the aforesaid living body, a virus in all respects similar to itself, and therefore capable of a like reproduction. The necessary predisposition is occasionally enhanced either by telluric or atmospheric causes. The virus is termed a specific contagion<sup>a</sup>, and the disease so originating and propagating itself is deemed contagious or infectious<sup>b</sup>.

Again, under other circumstances, and by a very different though equally mysterious process, a virus is eliminated in a certain locality, having, in like manner with the last-named poison, the property, if a predisposed person come within its reach, of inducing a particular disease. This virus is, however, quite destitute of the power of originating a self-disseminating disease, and its effects are, therefore, limited. If a predisposed person inhabit the locality where it exists, he is also liable to undergo the specific morbid affection; if he remain out of the

<sup>a</sup> Few subjects are more mysterious than the origin of a specific contagion. We can no more comprehend the original process of its elimination than we can explain the appearance of the first organized being. We say it is a morbid secretion, the existence of which, along with its definite qualities, is inferred by its evident effects. Can such an agent be generated *de novo*? If so, is it probable that this novel generation occurs frequently? Is it, moreover, probable, that such generation should often be the result of fortuitous or artificial combinations? It is easier to propound such queries than to answer them. To me, however, it appears not satisfactorily proven, that any single contagion has ever, under any circumstances, been re-developed.

<sup>b</sup> It is a singular circumstance that the negro constitution, so little affected by miasm, is yet peculiarly obnoxious to true contagions like variola or syphilis. — See some striking illustrations of this fact by Staff Assistant-Surgeon Daniell, pages 43–48, in his “Sketches of the Diseases of Guinea,” published in 1849.



locality, he is safe. A disease so originating, and so propagated, is styled endemic.

In some cases it is alleged that a virus may be generated by causes which are entirely local, and which yet, *ab initio*, possesses in addition a self-disseminating property, although the said property may not be always "appreciable." The resulting disease arises, at first, from the endemic virus solely. In the majority of cases thus developed there exists no apparent self-multiplying power,—in a small minority, however, this power is actually imparted, and, under certain circumstances, not merely assists, but is able of itself to propagate the disease. "*A priori*" this complex law of propagation could never have been deduced, and its very existence is still, perhaps, not quite satisfactorily proven.

A fourth law has been laid down by many authors. It is imagined that a disease may, through certain artificial combinations, secondarily assume a contagious power; nay, even that after this assumption, the said disease may, under favouring circumstances, lay down its lately acquired property. However popular this view may be, to me it appears a most untenable hypothesis,—the *origin de novo* of a specific contagion must be among the rarest of all phenomena. I do not mean to deny that an endemic disease, originally mild, may occasionally, without any real increase in the virulence of the endemic virus, become aggravated, alike in frequency and malignancy. This occurs under various circumstances,—such as poverty, exposure to cold and damp, inhabiting crowded, ill-ventilated houses, &c. &c. Under these and similar errors, an endemic disease may assuredly become epidemic and virulent, neither directly, however, by increased malignity of the original virus, nor yet by the acquisition of any new superadded contagious property, but indirectly by the increased predisposition of persons situated in the unfavourable position above described.

Finally, if it can be shown, that in a certain disease the arguments in favour of endemic origin are in a great majority of cases quite irresistible, and that this hypothesis will, moreover, account for every instance whatever of such disease, at least plausibly; whilst, on the other hand, the assumption of a self-disseminating property can only explain the existence of a minority of instances of the disease, and quite fails in rationally accounting for all the rest,—then it is but fair to conclude that the said disease is local only, and that any further hypothesis in favour of the existence of a contagion is unnecessary, unwarrantable, and therefore unphilosophical.

In the preceding pages I have stated, as a matter of per-

sonal observation, that the fevers witnessed by me in Jamaica were invariably ruled by the principle of periodicity; this as a matter of fact, resting upon my credibility or competence as a reporter, I must here consider proven. I have further assumed that this periodicity is the direct effect of an unknown cause, which is usually termed miasm, and which, whether entirely telluric, or occasionally somewhat modified in its effects by malaria, originates in and is remarkably attached to particular localities. It follows, *a priori*, that a disease developing, as its main characteristic, this peculiar feature, must necessarily be of local origin; that where the obscure cause exists, there, providing predisposed persons be present, the disease, the direct effect, may exist also; conversely, that where the cause exists not, neither can the disease.

A query now arises,—can an *a posteriori* argument, founded on the history of the disease, be maintained, tending to confirm this assumption of a local origin? To prove the affirmative answer to this query will now be my endeavour.

Three other propositions regarding the propagation of these malignant forms of fever have each been affirmed and ably supported. First, that this disease is, *ab initio*, endemic and contagious. Secondly, that it is endemic only, but, under certain rare circumstances, it can assume a self-multiplying power. Thirdly, that it is wholly contagious and not of local origin at all.

These three hypotheses, although very different in themselves, may all be entertained, and with sufficient accuracy for my present purpose, by inquiring, has malignant periodic fever, under any possible supposition, a self-disseminating property?

In every argument it is justly deemed illogical to attempt to prove a negative position. The “onus probandi” devolves upon those who maintain the affirmative; their opponents endeavouring to show either that their facts are incorrectly stated, or that their reasoning is unsound.

I do not, therefore, mean to attempt to prove non-contagion as it is called. My present task is simply, in answer to the first query, to maintain the following position;—to wit, that the history of malignant fever leads to the conclusion, that it is a disease which originates and is propagated through the agency of a local cause. In the course of this argument it will indirectly appear that the alleged proofs of the existence of any self-disseminating property, of any specific contagion, are, agreeably to the rules of evidence, altogether irrelevant.

Three<sup>a</sup> historical facts (at least as such I claim them, and

<sup>a</sup> The existence of these three facts is abundantly demonstrated in the Reports from Jamaica, &c.



confidently appeal to the testimony of every officer who has served five years on the island, and one during an epidemic); three facts, then, I repeat, appear to demonstrate, in a satisfactory manner, the local origin and propagation of these lowland malignant fevers. First, if fever prevail epidemically in a barrack or other locality, the removal of its inhabitants to the higher range of mountains at once stays its ravages, be the disease ever so malignant. This fact could not be denied. It was alleged in reply that the cessation of fever was the direct effect of diminished temperature. Then, making a hypothesis for the occasion, it was maintained that the same caloric, which confessedly tends to extinguish all true contagions, was absolutely necessary to produce and support the one in question. It was added, its virulence was in direct ratio of the present temperature. The second fact, which is equally incontrovertible, meets this objection, groundless as it is<sup>a</sup>. When, owing to causes little known, the lowlands, generally, are devastated

<sup>a</sup> Extraets from a Report written by me in Jamaica, in 1837, to illustrate the effects of removal of troops from positions where the local cause of disease exists, to others where at the same time it exists not, or only in a very modified form :

1. In 1819, owing to an outbreak of fever in the 50th and 92nd regiments, at Up Park, five companies were removed to Fort Augusta and Stony Hill. Among these companies scarcely any sickness prevailed, whilst their comrades left behind died with fearful rapidity. As the season advanced more men were sent from the affected locality, but having been so long exposed to the epidemic influence several deaths occurred, though far fewer, probably, than would have been had they remained at head-quarters. Ultimately all were removed except 100 left in charge of the stores, &c., of which last body only 25 escaped.

The two regiments remained at Fort Augusta and Stony Hill, and sickness at length disappeared. The 50th continued healthy until the end of the year, when the corps returned to Up Park. On the 24th November fever recommenced: within 96 hours there were 51 admissions, 42 more followed rapidly, and in six weeks there were 184 admissions and 40 deaths. .

2. In 1822, when the 33rd and 91st regiments arrived in Jamaica they lost at Up Park, in less than four months, 8 officers, 157 men, 16 women, and 27 children, although the strength of the garrison at no one time exceeded 500 men. The post was evacuated, and the regiments were distributed between Stony Hill and Fort Augusta. They occupied these quarters for several months, and during this period only 9 deaths occurred, 7 of which happened within a few days after leaving Up Park.

3. In February, 1825, fever appeared at Stony Hill among the men of the 77th regiment. In a very short time there were 270 cases and 60 deaths. In March 220 men of this corps were distributed among the troops between Fort Augusta and Up Park, a detachment of 30 being left at Stony Hill: of the former only 4 died during their stay at these two posts, and these were attacked within twenty-four hours after leaving Stony Hill; of the latter only 6 escaped.

4. In the autumn of the same year fever recurred at Stony Hill and Spanish Town. The plan of encamping in the same locality was tried, and, as is well known, proved a most signal failure: indeed the epidemic became rather aggravated than otherwise.

5. In 1827, at Fort Augusta, the 84th regiment was, by the same disease, threatened with annihilation. In ten days, after a change to Stony Hill, the fever was arrested.

by a malignant epidemic fever, as in 1780-81-82, 1793-96, the only certain place of refuge is to be found in the upper highlands; but when, as in 1799, at Fort Augusta, these, or similar causes, operate for the time in a particular district only, then the same cessation of disease attends a removal of the inhabitants of the affected district to any other lowland locality, even though such locality be inhabited by other predisposed individuals; it is found that, excepting a few cases which may fairly be supposed to have brought the seeds of the disease with them, the epidemic entirely ceases; it is also found that the said cases run their course, but leave no successors, the original inhabitants remaining unaffected. The former circumstance proves the existence of a local cause of disease, and both indirectly throw discredit upon the hypothesis of a self-disseminating property. The third fact, which tends to support these views, would almost alone prove conclusive, if there yet be any faith given to the old adage, “*ex nihilo nihil fit.*” In the healthiest years in the lowlands we are ever and anon startled with the appearance of sporadic cases, often of the most malignant type. Sometimes there is a solitary case; sometimes there are two or three. They appear—the victims are swept away; but they leave no successors. Whence came they? In the whole district, at the time, there may not be another case of the like nature, and we may hear of no more for months afterwards<sup>a</sup>. A striking instance of this description is narrated by Dr. Musgrave at Antigua. The *locale*, too, of these isolated fevers may be some secluded spot where the victims have resided for the past year, rarely visited by Europeans, except, perhaps, by the contractor from the neighbouring estate. Again, I inquire whence came these fevers, whence did they derive their contagion, and why have they no successors? All their comrades may be as susceptible as they were. The following season may sweep them off in their turn. Admitting these three facts, I cannot conceive any mind, accustomed to receive the ordinary laws of evidence, which can deny assent to my position, that *the lowland fevers of Jamaica,—endemic, simple epidemic, or malignant epidemic,—arise and are propagated by local causes.* These facts, moreover, indirectly cast discredit on the assumption, that a disease so remarkable, and so peculiar in its local habits, can, under any circumstances whatever, owe its dissemination to a contagious property.

It is now allowable to refer to a fourth fact, which has been verified and quoted alike by contagionists and their opponents

<sup>a</sup> Dr. Fergusson mentions two at Demerara, on the authority of Dr. Donkin; Mr. Daniell also mentions two at Gibraltar.



in support of their respective views. It is this,—in the same locality, in the same barrack, sometimes in the same room, one body of troops may be decimated by fever, whilst another may remain comparatively healthy. On inquiry it is found that the former have resided less than two years in a warm country, whilst the latter have possibly been above five years quartered in such a locality. Sir William Pym has concluded that troops in the latter case owe their comparative immunity from malignant fever to a previous attack of that disease. This, as far as Jamaica is concerned, is an entire misapprehension. What proof exists in the well-known case of the epidemic in the 54th regiment, in 1808, that the other regiments had been previously attacked by malignant fever? I know many similar instances between 1834 and 1845. In these I do not mean to assert that the whole or a part, or even one man, had during his five years' residence in the island, remained unaffected by pyrexia in some form; very far from it; all probably have undergone the febrific ordeal; all have suffered but from the usual seasoning fever, or bilious fever, as some style it, which, however, Sir William Pym maintains is quite distinct from malignant epidemic fever, and which, if his view be correct, cannot surely confer an immunity from an attack of that disease. This fact cannot be explained away, at least by the asserters of three distinct varieties of tropical fever; therefore, upon their principles at least, it must tend also, indirectly, to cast discredit upon the hypothesis of contagion.

The most popular argument alleged in favour of a self-multiplying power is derived from the arrival of a ship at a healthy port, with fever on board, being in a few and comparatively rare instances immediately followed by an outbreak of a similar fever on shore<sup>a</sup>. It is here worthy of remark, that in all such cases hitherto recorded, those of the "Bann" and "Eclair" not excepted, the localities were always such as, *a priori*, would lead us to conclude that at any time severe fever might prevail, and that, in point of fact, such fever had previously prevailed, although, perhaps, at a distant period. Besides, if malignant fever were propagated, like variola, by a specific contagion, and if it existed on board ship, it would invariably spread on arrival at any port when meeting with predisposed persons. This sequence, however, is not the rule, but the rare exception; for the arrival of the great majority of ships with this form of fever on board is not followed by any similar out-

<sup>a</sup> On this point a Committee of Physicians of New Orleans rightly conclude, "where sufficient causes exist to engender disease in one place, it is useless to speculate on the question of its importation from some other place."

break on land. Neither can the difficulty be altogether evaded by assigning deficient temperature as a frequent cause of its non-propagation. Malignant fever has prevailed with the thermometer below 70° or even 57°<sup>a</sup>.

As far as regards the West Indies this argument appears most unsatisfactory. There is no year, scarcely any season of the year, that ships do not arrive with fever<sup>b</sup> on board, and that some of these cases do not terminate fatally with black vomiting. Should an epidemic prevail at the time, the arrival passes unnoticed; should the circumstance occur in a healthy year, and no sickness follow, the arrival is equally disregarded; but should it so happen that any unusual virulence of miasm soon after causes a marked increase of fever on land, the inhabitants, anxious, as all are, to remove the fancied stigma of insalubrity from their own dwelling, proclaim as a fact the importation of a contagious fever. With the popular voice "coincidence ever proves causation." Even the colonist of Sierra Leone has occasionally fancied that the fever which spreads around him is of European importation<sup>c</sup>! On this subject, generally, the happy remark of Inspector-General Dr. Fergusson on the case of the Regalia should ever be remembered.

It is also a matter of importance to know that the labours of Chevrin and Bancroft (indeed, I may add, Arejula himself) have proved satisfactorily that several of the most remarkable cases of alleged importation (Barcelona, Cadiz, and Grenada, for example) rest upon evidence either defective, contradictory, or utterly false<sup>d</sup>.

<sup>a</sup> Philadelphia, October, 1793 and 1797. Gibraltar, 1813.

<sup>b</sup> Hume says, in 1741-2, 1653 seamen died at Jamaica in the hospital only.

<sup>c</sup> For instance, the Caroline from Malta in 1822.

<sup>d</sup> The evidence in favour of the importation of malignant fever into different parts of Western Africa and the adjoining islands, also into ships at sea, appears to me generally defective, inasmuch as any hypothesis in favour of contagion must be greatly invalidated under the following circumstances:—First, where local causes exist from which, *a priori*, it is reasonable to expect the presence of malignant fever among European residents. Secondly, where these causes on several occasions previously have produced fatal remittent fever, even among the black and coloured population. Thirdly, where malignant fever has actually existed on some previous occasion without the least suspicion of its having been of contagious origin. Fourthly, where it is impossible, or nearly so, that any communication could have existed between the infected individuals or their *fomites* and the individual with whom the secondary epidemic has apparently originated. Fifthly, where fever breaks out in a ship after lying off a coast in which at the time local causes exist sufficient to produce such disease. Sixthly, when fever appears in a ship at sea in which, by the confession of all competent parties, causes are present sufficient to originate such fever, and which, at some subsequent period, do actually produce a similar affection, even after undergoing the usual purification. Seventhly, where persons contracting fever in a given



To return to Jamaica. I am not aware whether any ship has ever been specifically accused of importing malignant epidemic fever into this island.

It is by some, however, still alleged that, through the "Hankey" the "vomito negro" was introduced into Grenada, and thence to the other West Indies, including, of course, Jamaica. Sir William Pym brings forward evidence to show that for "a series of years" previously to 1793 this island was healthy! Amongst other authorities he calls upon Dr. John Hunter, an officer who has given a most graphic account of the malignant fever as it appeared in his day, and who also details the result of several post-mortem examinations conducted as far back as 1741. The fever, then epidemic (from 1780 to 1782), was evidently identical with the three most remarkable epidemics it was my fortune to witness, viz., 1835-37, and 1840-41-2. It was sufficiently severe sometimes to kill "during the first paroxysm, and even in the space of twelve hours." The vomiting was "sometimes constant and violent, especially in the worst cases of the disease," and "the blood being frequently in a dissolved state," was "forced into the stomach, and thrown up, forming what has been called by the Spaniards black vomit." Dr. Hunter then gives the following details of what appears to have been one of the most appalling epidemics on record.

"1780.—93rd. Kingston.—In six months one-half dead; nine-elevenths of the whole dead or discharged.

"85th. Rockfort and Up Park.—Five-twelfths died the first year; nearly one-half dead or discharged.

"92nd. Spanish Town.—Five-twelfths died; about eleven-twenty-fifths dead or discharged.

"94th. On detachment.—First year one-half dead; at the end of two years and four months, six-sevenths dead or discharged.

"There died in the above regiments from August to January rather more than two-fifths of the numbers landed.

locality embark and actually die on board, and yet fail in communicating the disease to their shipmates. Eighthly, where an epidemic in full virulence on board ship suddenly stops, although within tropical latitudes, leaving unaffected a number of persons whose predisposition to malignant fever is proven by their falling victims on a subsequent occasion. Ninthly, where the alleged period of incubation considerably exceeds the space allowed for this stage by the most eminent advocates of contagion. Tenthly, where the alleged facts in support of the existence of a self-multiplying property rest on mere "hearsay" evidence. I may add, in conclusion, that in the West Indies fever has appeared on board ship when off an unhealthy coast, previously to any intercourse being held either with the shore or with any other vessel.

“1779–80.—60th lost three-elevenths by death; 79th, two-sevenths by death, next year, five-eighteenths; 88th, one-third by death, and in two years and four months, 550 out of 791.

“Average deaths in the command, from 1780 to 1782, 1 in 4, annually; discharges, 1 in 8; total loss to the service, three-eighths.

“In four years, actual loss to the service 5250.”

So much for the salubrity of Jamaica before 1793.

Colonel Tulloch's report, which includes the memorable epidemics of 1819, 1825, and 1827, shows that the average loss to the service by deaths and invaliding was 1 in 7 only. Nor was the sickness at this time peculiar to Jamaica. In 1780–1 the mortality at Lucia equalled the average strength of the garrison.

Lastly, the epidemic fever which undoubtedly prevailed in Jamaica during 1793, 4, 5, 6, more especially 1795, actually commenced in that island as it did in Charleston, in 1792. It proved fatal that year to the commanding officer of the 20th Dragoons, an officer's wife, and several men; also, about or before the Christmas of 1792, several fatal cases occurred amongst the officers of the 20th regiment. It will be remembered that the “Hankey” did not even arrive at Grenada till February, 1793.

It has been maintained, as before stated, that malignant tropical fever, though originally endemic merely, may, under certain circumstances, become secondarily contagious. It has been observed that the crew of a ship, after leaving a locality where this disease prevails, frequently becomes affected by it. In some instances it happens that the earlier cases are not very numerous, and, though often fatal, their type is not of the very worst description. In a few weeks, however, the epidemic increases in severity, and spreads in a very remarkable manner, as on board the *Bann*, *Eden*, *Scout*, &c.; it is thence argued, that the increase in the number and severity of cases depends on the secondary acquisition of a self-disseminating property.

To render this view even feasible, it is necessary to show, —First, that the affected ship has been too short a time in the tropics to become saturated with miasm. Secondly, that the timbers of the said ship, &c. &c., are in themselves free from all impurity: this, of course, requires a minute examination. Thirdly, that the result of observations carefully made and accurately recorded, shows that no remarkable atmospheric variations had occurred at the time. Fourthly, that the increase of the true fever commenced so long after leaving land as to render



in a high degree improbable the inference, that it could have been the result merely of telluric miasm.

Even should the result of investigation on these points not tend to throw discredit upon the hypothesis of contagion, we still, fortunately, have an analogous case on shore, in which the true cause of the pathological phenomenon just stated is pretty clearly developed. In a barrack-room the same progress and marked increase of malignant fever has been observed, and was formerly attributed by some to the agency of a self-multiplying power. It has been generally found, however, that, by removing half the inmates of the affected room, there was for a certain time at least a marked diminution in the proportion of cases occurring in that room, even if the men removed were kept in the same barracks, and allowed free communication with their comrades, sick or well. From this it would appear that the increase in severity manifested during such febrile invasions, whether on board ship or in a barrack-room, is to be ascribed merely to increased predisposition, the result almost invariably of over-crowding, insufficient ventilation, or the like. 750 cubic feet of air per man are required within the tropics even on land: this can never be obtained at sea.

In conclusion, it may be remarked, that among the phenomena of comparative rarity observed in reference to this disease, is the attack of a surgical or other patient, and, as a rule, the hospital attendants suffer not more than their comrades, perhaps rather less. In the expressive language of Inspector-General Dr. Fergusson, "the hospital is the place of safety."

Colonel Tulloch and Inspector-General Dr. Marshall, in their very able and elaborate Report, have maintained that the mortality in Jamaica increases directly with length of residence. Fevers, if not the only, are by far the most frequent, source of this mortality. It follows, then, that fatal fevers increase with length of residence, and, therefore, if a man survive his first attack of malignant fever, and remain in the country, he becomes continually more liable to undergo a second. This doctrine, although supported with much ingenuity, appears to me erroneous; and I have endeavoured elsewhere to show that the reasoning on this point in the Report rests on various unobserved fallacies.

Sir William Pym and others, as it has been stated, uphold a proposition nearly converse, alleging that one attack of malignant fever bestows on its survivor a perfect immunity from a second. If by malignant fever be meant merely a pyrexial disease terminating in black vomit, I can of my own personal

knowledge urge but little in reply. After the occurrence of this symptom I have never seen a single recovery<sup>a</sup>. Highly respectable authorities, however, both military and civil, state that, in such cases, recoveries, although confessedly very rare indeed, have been witnessed. Amongst civil practitioners I may specify Dr. Dyett of Montserrat, Dr. Musgrave of Antigua, and Dr. Fergusson<sup>b</sup> of Kingston, Jamaica. It has also happened that some of these rare instances of recovery have been subsequently attacked with black vomit fever, and died. Inspector-General Dr. Fergusson relates one such case, on the authority of Dr. Caddell of Barbadoes. On the other hand, if by malignant fever be meant a pyrexial seizure, exhibiting *inter alia* the orbital headach with peculiar expression of eyes; the pale lemon tint of skin; or sometimes a bluish mottled appearance; the hemorrhage from the gums; very dark and liquid evacuations; intense gastric irritability; diminished flow of urine; peculiar, feeble, intermitting, and most compressible pulse; with general appearance of prostration of the powers of organic life, &c., &c.,—if such a group of symptoms occurring epidemically, and in the more severe instances terminating before the completion of the fifth day in black vomit and death, whilst the less severe cases convalesce; if such constitute an instance of malignant epidemic fever, then, among the fortunate survivors, I have seen many instances of a second attack<sup>c</sup>.

<sup>a</sup> Neither did Staff-Surgeon Doughty, who in Jamaica and Spain saw many hundred cases.

<sup>b</sup> This gentleman succeeded Dr. Bancroft in the Presidency of the College of Physicians and Surgeons of that island.

<sup>c</sup> If a person recovering from severe fever proceed to Port Royal, Port Henderson, or such like stations in the lowlands, he convalesces slowly, yet generally without relapse; or, if he be sent to the upper central highlands, he also convalesces without relapse, and in a much shorter time than in the former case; but if he proceed to the lower range of highlands, especially if he select a spot among the serrated mountains of St. Andrew's, St. David's, Port Royal, &c., he is there likely to be attacked with intermittent, and that too with some severity.

Both in temperate and tropical regions, owing to occasional errors, there is sometimes produced an artificial malaria; accumulated putridities, whether animal or vegetable, whether solid, fluid, or gaseous; imperfect ventilation; overcrowded dwellings, &c.; are among the more conspicuous causes whereby such an atmospheric condition is generated.

In Northern latitudes this artificial malaria greatly aggravates the typhoid form of synochoid fever; within the tropics, like true malaria, it increases individual susceptibility. Hence a person dwelling within its influence, who, under other circumstances, might have been able to resist the agency of miasm, is rendered amenable to the inroads of febrile disease.

It follows as a corollary that this artificial malaria can, by artificial means, be dissipated; that this increased personal susceptibility may thereby be prevented; and fever, whether extra- or intra-tropical, be greatly modified, if not removed.

To escape from miasm and true malaria, it is necessary to flee from the locality



Relapses, as already stated, and their usual sequence, visceral disease, are, however, comparatively rare in this affection.

It is not, by the preceding remarks, meant to deny, that after recovery from the first fever of whatever kind, there is a diminished liability to severe invasions of pyrexial disease. The person, in fact, becomes acclimatized<sup>a</sup>; for miasm is a poison to which, in many instances, the human constitution appears to become as much habituated as to the use of tobacco, opium, &c. But this fact, so far from being new, has been known ever since we have had West Indian colonies.

According to the views laid down in the preceding pages, the malignant fever of the western tropics is a miasmatic disease of local origin solely, and therefore exhibiting no self-disseminating property; also, unable to confer on a survivor a perfect immunity from a second attack. Is this fever, then, identical with the malignant epidemics of the eastern tropics which are confessedly of miasmatic origin? This question has usually been answered in accordance with preconceived opinions of the origin of the western disease. Some, however, in denying the identity of these two grand forms of tropical fever, have rested their denial entirely on the presumed absence in the eastern disease of the characteristic black vomit. This appears to be a misapprehension; for, although far from being so frequent, still, according to established authorities, this symptom has been found in almost every region eastward of the Cape, where miasmatic fever has prevailed epidemically, viz., in the memorable Edam fever on the coast of Batavia, as related by Shiels; in Rangoon, as detailed by Walsh; in Ceylon, by Cameron; in the Peninsula of India, by Johnson, Annesley, Clarke, &c.; and in Moulmein in two cases out of eight<sup>b</sup>. It may, in fact, be affirmed, that black vomit is far more frequently present in the eastern, than absent in the western tropic.

It would appear, also, that the dark yellow colour, the pale lemon tint, and the livid discoloration of skin, with the black vomit and black-coloured diarrhoea, frequently observed in all tropical malignant fevers, are of a hemorrhagic nature, and proceed from the same causes, viz., alteration in the blood, a characteristic effect, though not, as some have imagined, the proximate cause of this peculiar disease.

which they inhabit. No other plan will avail. But to conquer artificial malaria is ever within our reach by destroying its artificial causes.

<sup>a</sup> Some persons are acclimatized by dysentery. This was my own case, and a severe ordeal it was.

<sup>b</sup> *Vide* British and Foreign Medico-Chirurgical Review, vol. i. p. 382.

In conclusion<sup>a</sup>, then, I conceive I have demonstrated the truth of the following theorems:—

1st. The lowland fever of Jamaica is periodic in its aspect, and local in its origin, therefore its different varieties are to be regarded as essentially one disease, the same in kind, though differing greatly in degree.

2nd. A disease local and periodic, as above described, is, reasoning by analogy, unlikely to possess a self-disseminating property.

3rd. All the proofs hitherto adduced in support of the alleged existence of such a property are altogether irrelevant, and, therefore, may safely be disregarded.

4th. Among Europeans an attack of severe pyrexia of any kind diminishes, within certain limits, the liability to a subsequent seizure; but the alleged perfect immunity from a second attack, conferred by a certain description of fever on its survivors, is disproved by experience.

<sup>a</sup> I should, perhaps, state that this essay was written in 1849, which will account for the omission of any reference to occurrences of a later date.



## PART II.

### REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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*Sixth General Report on the District Criminal and Private Lunatic Asylums in Ireland, with Appendices.* Presented to both Houses of Parliament by command of her Majesty. Dublin: Thom. 1853. Folio, pp. 32.

*Seventh Annual Report of the Commissioners in Lunacy to the Lord Chancellor, 30th June, 1852.* Pursuant to the Act 8 and 9 Vict. c. 100, s. 88. Ordered by the House of Commons to be printed, 5th April, 1853.

*Return to an Address of the House of Commons, dated 9th December, 1852, for Copies of all Reports of the Commissioners in Lunacy as to the State and Management of Bethlehem Hospital.* Ordered by the House of Commons to be printed, 14th December, 1852. 8vo. pp. 451.

*Twenty-third Annual Report of the Belfast District Hospital for the Insane, to 31st March, 1853.* By ROBERT STEWART, M. D., Resident Physician-Superintendent. Pamphlet, pp. 52.

*The Journal of Psychological Medicine.* Edited by FORBES WINSLOW, M. D. Nos. for October, 1852, and January, April, and July, 1853. London: John Churchill.

*Popular Errors on the Subject of Insanity Examined and Exposed.* By JAMES F. DUNCAN, A. M., M. D. Dublin: M'Glashan. 1853. Post 8vo, pp. 265.

*The Nature and Proximate Cause of Insanity.* By G. J. DAVEY, M. D. London: Churchill. 1853. 12mo, pp. 76.

*The Present State and Prospects of Psychological Medicine, with Suggestions for improving the Laws relating to the Care and Treatment of Lunatics.* By J. SEATON, M. D. London: Churchill. 1853. Pamphlet, pp. 23.

*Cretins and Idiots: a short Account of the Progress of the Institutions for their Relief and Cure.* London: Wighton. 1853. Pamphlet, pp. 32.

*Elements of Psychological Medicine.* By D. NOBLE, F.R.C. S., Medical Officer to the Clifton Hall Retreat, Manchester. London: Churchill. 1853. 12mo, pp. 340.

*The American Journal of Insanity.* Nos. for July, 1849; January and April, 1851; October, 1852; and January and July, 1853. Published by the New York State Lunatic Asylum, Utica.

*Twentieth Annual Report of the Carlow District Hospital for the Insane Poor of the Counties of Carlow, Kildare, and Wexford, for the Year ended 31st March, 1853.* By M. E. WHITE, A. M., M. D., Resident Physician. Pamphlet, pp. 21.

*Twentieth Annual Report, to 31st March, 1853, of the Maryborough District Lunatic Asylum, for the King's, Queen's, Westmeath, and Longford Counties.* By T. C. BURTON, M. D., Resident Physician. Folio, pp. 4.

*First Annual Report of the Kilkenny District Lunatic Asylum for the County and City of Kilkenny, to 31st March, 1853.* By J. LALOR, M. D., L. R. C. S. I., Resident Physician. Pamphlet, pp. 16.

*Fifteenth Annual Report, to 31st December, 1852, of the Suffolk County Lunatic Asylum.* By J. KIRKMAN, M. D., Superintendent Physician. Pamphlet, pp. 30.

*Fifth Annual Report of the Somerset County Asylum for Insane Paupers, to 31st December, 1852.* By R. BOYD, M. D., Medical Superintendent. Pamphlet, pp. 60.

*Second Annual Report of the Wilts County Asylum, Devizes, for the Year 1852.* By J. THURNAM, M. D., Medical Superintendent. Pamphlet, pp. 44.

*Annual Report of the Royal Edinburgh Asylum for the Insane, for the Year 1852.* By D. SKAE, M. D., Resident Physician. Pamphlet, pp. 50.



*Thirteenth Annual Report of the Crichton Royal Institution for Lunatics, for the Year ended 11th November, 1852.* By W. A. F. BROWNE, M. D., Resident Physician. Pamphlet, pp. 44.

*Tenth Annual Report of the State Lunatic Asylum of the State of New York, for 1852.* By N. D. BENEDICT, M. D., Superintendent and Physician. Pamphlet, pp. 39.

THE above long list of publications in connexion with psychological medicine has been accumulating upon our table since our last stated annual review on "Insanity and Hospitals for the Insane"<sup>a</sup>. On the present occasion we purpose noticing them in the order in which we have given their titles, just premising that amidst such a mass of valuable matter the difficulty to be encountered will be, how to devote sufficient attention to each. We must only, therefore, endeavour to mete out something like justice to all; and among so many, should any not receive as much notice as it may merit, we beg our readers to ascribe such omission to our anxiety to give as perfect a review of the important subject as is possible in the limited space necessarily allotted to us for this purpose.

1. The Commissioners of Hospitals for the Insane in Ireland have here presented to the Lord Lieutenant their Sixth Annual Report, dated May, 1853, the subjects discussed in which are exceedingly interesting, and the statistics appended, as usual, very complete and instructive. It embraces a review of the condition of the district, criminal, and private hospitals and houses for the insane in this country for the last two years, from the 1st of April, 1851, to the 31st March, 1853.

We shall first notice some of the more salient points in connexion with the district establishments, sixteen of which are referred to in the Report; namely, Armagh, Ballinasloe, Belfast, Carlow, Clonmel, Cork, Kilkenny, Killarney, Limerick, Londonderry, Maryborough, Richmond (metropolitan), Waterford, Omagh, Sligo, and Mullingar. All the above hospitals are in full operation, with the exception of the two last, which were not completely finished at the date of the Commissioners' report. During the two years stated, the total number of admissions, of both sexes, was 2103; the males predominating,—they being 1064, and the females 1039. Of this aggregate number 346 were idiots, and the larger proportion thereof females; the sexes being respectively 168 males and 178 females. The epileptics were 385, the great majority being, on the contrary, males, viz., 266, and only 119 females. The

<sup>a</sup> Vol. xiv. No. 28, N. S.

total number of cures effected was 815,—409 males and 406 females, a very close approximation. The deaths were 530,—277 males, and 253 females. The number which remained under treatment on the 31st March, 1853, was 2870,—1417 males, 1423 females; 1661 of whom were chronic or incurable cases. The largest number of patients contained in any one hospital was at Cork, namely, 353, and the smallest in Clonmel and Waterford, being respectively 128. As to employment, we give the following interesting and satisfactory items. Of the total (2870) under treatment during the year 1853, 1440 of both sexes were engaged in varied avocations, so desirable in such institutions; for it may be stated as an established fact, that for the restoration or amelioration of the “mind diseased,”—and this as well for the rich as the poor,—there is nothing to be compared to regular systematic occupation, more especially out of doors, as far as possible; no establishment for the treatment of the insane can in consequence be considered complete unless a large tract of land is immediately attached to it,—the minimum proportion being ten acres to every hundred inmates<sup>a</sup>. The employments of the male patients were, we find, gardening, husbandry, weaving, tailoring, shoemaking, carpentering, &c. &c.; and that of the females embraced spinning, needlework, knitting, quilting, fancy work, laundry work, &c. The total outlay for 1853, on works and land, was £987 5s. 5d.; the produce, £2800 13s. 11½d.; and the net profit, £1813 8s. 6½d.

The following description of the newly erected hospitals for the insane we quote in full, not, however, without observing, that we abide to the fullest extent by our opinions expressed in former reviews, that great room for improvement still exists in the entire system in operation regarding the construction of these important public establishments,—a system which we hesitate not to declare is behind the age, and will be so as long as a central body like the Board of Public Works is permitted to exercise the despotic power it does in all that relates to their erection and planning. Serious and unaccountable delay in their completion is not one of the least causes of complaint against the Board of Works, whose supineness in this important point, when the necessity of the case is so peculiarly urgent, is certainly not free from reprehension. This is but too manifest when, for instance, as regards the Omagh Institution, for the accommodation of 250 patients, no less a period of time, as we find from the Report before us, than six years has been already

<sup>a</sup> A statute acre to every six males is the average proportion of land, one with another, in the district establishments.—*Report*, p. 10.



consumed in its erection, and how much more will be still expended it is difficult to say;—in strong contrast with which it may be stated that the gigantic establishment, the Colney Hatch Hospital, for between 1200 and 1500 inmates, was, from the time of the laying of its foundation stone until completed as contracted for, built in less than eighteen months<sup>a</sup>. But how was this? The answer is easily supplied; there was no such body as our Board of Works over it, to act as a drag with its red-tapeism in every movement made. No! the local authorities were thus happily unfettered, and a city for the insane finished, whilst a corridor of the Omagh was scarcely more advanced than above the foundations! It has often been a puzzle to us to know how it comes to pass that the landed gentry and rate-payers of this country, who have to pay every farthing of expense in connexion with the erection and maintenance of hospitals for the insane, consent to be bound hand and foot in all that regards a voice in their erection, &c.—being quite satisfied to pay the money, and submit to the iron rule of the “Star-Chamber Court in the Custom House,” as the Board of Works has been appropriately styled by an eminent presiding judge of one of our highest courts of judicature.

“Although not immediately coming within our province—the architecture and outlay attendant on contracts for the establishment of hospitals for the insane resting solely with the Commissioners of Public Works—still as the designs are, in the first instance, referred to our office, we may here give a general outline of the asylums recently erected. The radiated plan, as being less airy and cheerful, though, perhaps, interiorly more commodious, has been superseded in them. They are constructed on the same principle, three stories in height, for the sake of economy, with an extended frontage. The centre, in which are placed the officers’ apartments, projects, as also both ends, for the most part occupied by day rooms: the kitchen, laundries, stores, &c. &c., are in the rear, and central. The style partakes of the mediæval, with a certain amount of decoration; oriel windows, buttresses, turrets, and ornamental cut stone being in some buildings more profuse than in others. The proportion of single rooms, averaging one with another 750 cubic feet, forms about a third to the accommodation in dormitories, which contain from four to twelve beds each. The corridors run in front, and along the wings: connected with them are lavatories, water-closets, baths, &c. In the infirmaries (generally detached) provision is made for invalids, at the rate of about 10 per cent. of the whole number of inmates. Everything characteristic of a prison appearance, whether within or without, is avoided as much as possible. Due attention has been paid to warmth and ventilation, and commodious places

<sup>a</sup> See our fourteenth volume, page 405.

have been appropriated for religious worship, in some instances apart from the main structure, as at the Eglinton and Richmond."

The continued good working of our Institutions for the Insane Poor is thus endorsed by the high authority of the Commissioners:—

"To the successful results attendant upon the operation of the district hospitals for the insane in Ireland, during the last two years, we are happy to bear our official testimony. In a curative point of view they uphold a high character, as will be found by a reference to the recoveries on recent admissions in the early stage of the disease, as well as by an examination into the social condition of their inmates. Two great divisions practically exist in establishments of the kind, the one embracing chronic, the other acute cases; the former are principally influenced by a system of mental culture and corporeal employment, whilst the latter require a medical or more special treatment. The recoveries on the whole admissions, within this period, average 35 per cent."

This is a proportion which must be pronounced to be extremely satisfactory, bearing a most creditable comparison with similar establishments in the sister kingdom, in France, and in America.

We are obliged to pass over the sections in the Report having reference to various important matters of detail, such as,—“Infirmaries (which are so properly attached to all the new, and to several of the old institutions); Instruction (the Armagh and Richmond are very favourably mentioned under this head); Gas; Dietary (the remarks upon which, and the necessity of a generous one, are entirely to our mind, and deserving of the best attention); Sanitary Condition (reported as being generally good, except in Cork, where scurvy prevailed for a time, owing to excess of farinaceous and deficiency of animal and vegetable food); Incurables,” &c. &c.,—in order to give the annexed extracts:—

“With the exception of five, the asylums in Ireland are now under the immediate care of resident medical superintendents, who devote themselves to the success of their respective institutions. The non-professional gentlemen at the head of the five establishments in question, from their zeal and long practical experience in the management of the insane, deserve our warm commendation; at the same time, on principle, we are fully convinced that no new appointment of manager should be made except in the person of a duly qualified practitioner.

“Connected with every asylum is a consulting or visiting physician, whose services, in addition to those of a medical superintendent, may by many be deemed uncalled for; but affections of the



mind are so complicated, and the consequences arising from them often so dangerous and unforeseen, that though attended with expense, it is a judicious outlay; for if on any subject there obtains a greater variety of opinion it is on that of the existence of lunacy in certain parties,—conclusions the most adverse being frequently arrived at on the same case by educated and experienced practitioners, a circumstance almost unknown in regard to corporeal disease.

“ While on the subject of officers and attendants, we would take the opportunity of respectfully expressing our conviction, that it is necessary for the well-working of these great national establishments, that a retiring allowance should be secured to those who have long and efficiently discharged their duties to the public and to those intrusted to their care within the precincts of an asylum,—a place of all others which unfits a person advanced in years for after employment. At present there is no superannuation fund whatever, and thus, we are occasionally obliged to retain the ineffective services of individuals, who, having no means of support to fall back on, it would be an injustice to supersede. As provision on this head has been made for the staff belonging to other Government departments by the present Lord Chancellor, when Solicitor-General, we confidently trust that a clause for the same object will be introduced into the next Lunacy Act.”

In our former reviews we have fully expressed our opinion on the above subjects, and need only now in addition remark, regarding consulting physicians, that such officers are not being appointed to any of the new county hospitals for the insane in England; and even in some of the older, where they formed a prominent portion of the medical staff, they have been or are being dispensed with, as at Bethlehem and Hanwell. In the United States of America also, in which the institutions for the insane are second to those in no country for a system of internal government of a high order, it is, as far as we have the means of knowing, the exception to the established rule to have consultants.

The great injustice of withholding retiring allowances is anything but creditable to those upon whom the responsibility lies. The strong manner in which the Commissioners have now again, much to their credit, brought forward the question, can scarcely fail to obtain immediate and prompt attention in the proper quarter.

In the discharge of an imperative duty we are constrained to record our entire dissent from the views now and formerly put forth by the Commissioners on a most important point, affecting the best interests and continued good working of our district hospitals for the insane. We allude to the suggested

reception into them of "paying patients not in the category of paupers." We feel no hesitation in pronouncing this suggestion both unwise and impolitic; being calculated to engender the most serious difficulties in their management, and lead to results never calculated upon by its promoters, who, no doubt, are actuated by the best possible motives in proposing this organic change. We trust our worthy and excellent Inspectors will reconsider this point, and sure are we that they will not throw their official weight into the scale for its adoption. We are perfectly satisfied that it is both their desire and intention to increase the usefulness of the district hospitals for the insane; and this being admitted, we earnestly beg of them to give no sanction to "paying patients" of any denomination being admitted. Our district hospitals, as such, are noble and philanthropic establishments:—alter their constitution, and you will lay the foundation for abuses which no "central authority" could remedy or prevent. The plan has been tried in England, and has signally failed in one institution in particular—the Staffordshire, and has therefore been given up. The principle has also been mooted in others, but rejected as a most improper one. What is required to relieve "agriculturists and people in trade, who themselves are the principal parties assessed for the support of public asylums, and who are devoid of sufficient means to meet, when labouring under insanity, the terms of well-regulated licensed houses" (Report, page 11), is a special institution set apart for their own exclusive care and treatment, the want of which is a grievous social evil, and a blot upon the benevolent age in which our lot is cast not to have been long since established. In our last Review, when noticing Dr. Henry Monro's and Mr. Dickson's respective publications, we earnestly called attention to this subject, and now again refer to it in the hope that it may obtain that consideration which it so loudly demands.

An account of the "Central Asylum for Criminal Lunatics" occupies a large portion of the Report, and from it we would gladly quote some interesting extracts did our space permit. It must be sufficient now to state that its inmates are mentioned as conducting themselves in a very orderly and industrious manner, and the affairs generally of the institution to be most satisfactory and creditable under the judicious and excellent superintendence of Dr. Corbet, the Resident Physician and Governor. The Commissioners have some special remarks bearing upon the peculiar difficulties of such an institution in its management, particularly as regards those of its inmates who are



unimpaired in their mental and bodily faculties, and yet who must be detained indefinitely within its walls as "lunatics." They state, too, that at the present rate of admissions the establishment will, in the course of a few years, be too limited for the demand, unless "full discharges" are permitted. And as another source of relieving its anticipated redundant population, they make a suggestion the policy of which we most decidedly dissent from. Its adoption would be nothing short of an abnegation of the principle upon which the Central Asylum was founded. This is the proposal:—"To remove patients who may become fatuous and decrepit to their respective district hospitals, a discretionary power to do so resting with the Lord Lieutenant, and provision being made for their reception in the Order of Council submitted (by the Commissioners) for the management of the Asylum." Now, for what purpose was the Central Asylum specially established? Was it not to remove the stigma from the district hospitals of holding within their walls criminals of a particular class? Was not their presence therein found in practice to be a "plague-spot" upon these institutions, and a perversion from their legitimate purposes,—that of curative hospitals? And did not such a system tend to keep up the idea which is still so unhappily prevalent amongst the public, that insanity is a disease of degradation? The district hospitals long felt this sore *incubus*, but at length it has been removed in Ireland,—a result now earnestly wished for in England.

This asylum, we find, contained a total of 109 inmates on the 31st March last (69 males and 40 females), their mental condition being as follows:—

Recovered,	. . .	13	.	8 males, 5 females.
Improved,	. . .	17	.	7 „ 10 „
Insane,	. . .	79	.	54 „ 25 „
<hr/>				
Total,	. . .	109.	"	

The average cost of each inmate during the last year was £24. Varied employment is provided, and carried on to a considerable extent. The general health was remarkably good, and no casualty has occurred since the opening of the institution, which speaks volumes for Dr. Corbet's efficient superintendence, though if such had, it could not possibly have detracted from the high character of the institution. An unsuccessful attempt at suicide (and but one) was made during the past year, that of a man who killed a soldier (*not on duty*, as the Report states, but a *prisoner*) in Belfast gaol.

The Report concludes with a statement of the condition of the private establishments, twelve of which (with 423 inmates,—245 males, 178 females) were in existence, all, with the exception of three, being under “the immediate management of respectable members of the medical profession, some of whom had attained a very high character from their successful treatment of the insane.”

Elaborate and very carefully drawn up statistics form the Appendix of the Report (the more important features of which we have embodied in the preceding analysis), to which is added a copy of a memorial to the Lord Lieutenant from the Board of Governors of the Belfast Institution against the appointment of chaplains, and the reply made by the Inspectors to his Excellency thereon. To the latter point we need not here further specially refer, as the whole of this remarkable and important question will be better discussed when we come to review the Report of the Belfast District Hospital for this year.

2. The Seventh Annual Report of the Commissioners in Lunacy (England) is up to the 30th of June, 1852; but it was only in April last it was ordered by Parliament to be printed. In our review of the one that immediately preceded it<sup>a</sup> we ventured to refer to several points of interest in which we considered it was defective as an official Report of high authority, and suggested that such might not be overlooked in future. We are happy to find that in some respects the Report before us is fuller in details than hitherto, still there are palpable deficiencies, the existence of which we regret. We now especially allude to the entire silence of the Report upon the results of treatment in the several public and private hospitals for the insane in England and Wales, coming under the official notice of the Commissioners. We said before, and we now repeat it, that this is a most serious omission in an otherwise valuable “Blue Book.” It is all very well giving now, for the first time, the most voluminous details respecting the number of “male and female officers, male and female attendants, male and female servants, &c. &c;” “Salaries<sup>b</sup>, wages, and allow-

<sup>a</sup> Vol. xiv. No. 28, N. S. p. 386.

<sup>b</sup> On reading this portion of the Commissioners' Report we were much struck at finding that the services of the resident medical officer of the Bristol Asylum (having the charge of 101 patients) were remunerated by the liberal annual salary of £50, and no “allowances” of any kind, exactly the same as given to a subordinate officer of the institution, the clerk (p. 109): and that the chaplain even received £60 as his annual stipend for the performance of a duty comparatively a sinecure; further, and still more scandalous and insulting to



ances" (even to the matters of "small beer" and "vegetables"), of the different public establishments for the insane, occupying thus sixty-nine pages out of a total of one hundred and twelve, a sacrifice of space to the exclusion of much more important statistical information. We nevertheless hope that this defect will yet be made good; and we appeal with confidence, on this subject, to the medical members of the Commission, who owe it to themselves and the profession to attend to it. But, to proceed with our analysis of the Report, we find that, during the period it embraces, four county asylums have been opened for patients, viz., for the county of Derby at Mickleover; Middlesex at Colney Hatch; Union of Monmouth (consisting of it and three other counties) at Abergavenny; and the county of Wilts at Devizes; that new asylums were nearly ready, being likely to be opened at the close of the year (1852) for the counties of Warwick, Worcester, Lincoln, Hants and Bucks:—so that in England, as with ourselves, rapid strides are being made to afford suitable receptacles for the indigent insane, who were too long unthought of and uncared for. The Commissioners, in the exercise of the power vested in their hands, very properly, we are glad to perceive, put a veto upon a site laid out for a Welsh asylum, owing to its insalubrity, by reason of close proximity to a neighbouring swamp and to copper smelting and patent fuel works.

The spirit of the following extract we highly commend. Its common sense and common justice are patent; and, coming from so high and independent a source, is deserving of being attended to by those in power, who too fondly grasp at every source of patronage, be it ever so humble:—

"We have invariably recommended that the resident medical officer, as the manager and presiding authority in a new asylum, should be elected to his office, and that his salary should begin to run some months at least before the building is opened for the reception of patients. The amount of additional salary thus incurred will be far more than saved, if, during the intermediate period, the committee have the benefit of his active services and advice in the laying out of the yards and grounds, in the fitting up and furnishing of the asylum, and in selecting the subordinate officers and attendants, and regulating their respective departments and duties."

The Commissioners complain in strong terms that the local

the medical profession, that a mere menial in the same asylum receives £31 4s. as his annual *wages*, with "board, lodging, and clothing" into the bargain. We strongly advise the house surgeon of the *liberal* paying Bristol Asylum to change places with the menial, and doff the doctor for the nonee.

authorities of boroughs (fifty and upwards in number) have not made legal or adequate accommodation for their pauper insane, and submit accordingly that the higher powers should enforce the performance of the obligations imposed on them, by compelling due provision to be made for their care and treatment in public asylums. The character of the country for common humanity is called in question by this shameful carelessness and neglect of a most solemn duty, which, by setting at defiance the spirit of an express enactment of the Legislature, will be seriously compromising to those whose duty it is to take immediate steps to provide against the continuance of an evil so great in magnitude. St. Luke's Hospital comes in for a large share of special observation, favourable and unfavourable, as to its condition and management. Its system of superintendence is thus reported upon, with suggestions for improvement, which, before this, we take for granted have been carried into full effect. The "*paramount*" authority in all establishments for the insane being vested "*in some resident medical officer, rather than in any non-resident physician or surgeon,*" is the principle which we years ago advocated, and its decided recognition now by the Commissioners, as the only sound one to be pursued in hospitals for the insane, is a happy confirmation of our views being just and reasonable:—

“The hospital of St. Luke's, like that of Bethlehem, is placed under the medical care of one resident surgeon or apothecary, together with two physicians and a surgeon (having considerable controlling power), who attend the institution, but do not reside there. In the course of our recent Report to the Home Office, on the condition and management of Bethlehem Hospital, we have taken occasion to suggest, that any new arrangement of the medical staff there should comprehend the services of (at least) two resident medical officers, one of whom should have paramount authority in the hospital, and should be responsible for the whole of the internal management thereof.

“Without reference to the regularity or duration of the visits made by the medical visitors of St. Luke's, or any other hospital, or the attention bestowed by them on their patients (which have not been the subject of any especial inquiry on our part), we think it right to state our opinion to be that, in all the various lunatic hospitals and public asylums of this country, the paramount medical authority should be invariably vested in some resident medical officer, rather than in any non-resident physician or surgeon, whose means of observing the wants and condition of the patients must necessarily be less perfect, and that the authority and responsibility of such resident officer, so far as respects the care, treatment, and



comforts of the patients, should not be shared or interfered with by any other person whomsoever."

Bethlehem Hospital comes next in the Commissioners' Report, but as we shall refer to the special Parliamentary Return respecting it further on, we will proceed to notice the Report on the "Licensed Houses," some of which would appear in great need of reform. For instance, the one called "Oulton Retreat," near Stone in Staffordshire, is strongly animadverted upon, for the excessive and improper restraint, imperfect ventilation, irregularity in keeping the case-book, and a general want of diligence and energy in the management. At "Bellevue House," Devizes, a female was secured by the leg to a seat in the yard; two males, both paralyzed, were fastened by straps to chairs to prevent them falling forward, one of them was suffering from sores on his back, and the other was in a wet and dirty state. The Infirmary Asylum at Norwich is largely and severely censured for its very defective system of management, and the borough justices plainly warned, that if they persist in neglecting to make a fit provision for their lunatic paupers, the Secretary of State will be applied to on the subject. The Norfolk County Asylum at Thorpe, Norwich, would also, we have reason to believe, require a reform in its management, the medical and moral treatment of its inmates being, strange to say in these days of progress, not under the *paramount* (we like much this expressive word of the Commissioners, the scope of which there is no mistaking) authority of a resident medical superintendent, but in a divided state, a state, however, which it is to be hoped will not be permitted longer to continue. But it would be a profitless task further to comment upon the condition of the "Licensed Houses," which, with some honourable exceptions, are held up in the Commissioners' Report in a most unfavourable aspect, so much so as to cause us to regard their state as a disgrace to the country; we are, therefore, truly gratified with the straightforward and uncompromising yet temperate manner in which the Commissioners have discharged their duty towards those of them deserving reprobation.

The subject of the best disposal of "criminal lunatics,"—a distinctive term which, though used in the Report, is, at the same time, objected to, would seem to be an inextricable juggle still to our Commissioners in England. For ourselves we can see no difficulty at all in the matter. It is manifest to all that they should not be associated with the ordinary inmates of hospitals for the insane. On this head there appears

to be no second opinion. We must say, however, that there has been no small amount of hair-splitting and wire-drawn distinctions on the subject in England. We would cut the Gordian knot at once by consigning them to a central establishment like that at Dundrum, which is affording such general satisfaction. Surely there should be no doubt as to the propriety and absolute necessity of this, seeing that it has been carried into effect in one portion of her Majesty's dominions, and this so far back as 1845. That such has not been long since done in Great Britain is truly not a little anomalous, especially when we find, by the Report of the Commissioners, that no less a number than four hundred and thirty-nine criminals (360 males and 79 females) are *imprisoned in hospitals for the insane!*

Some very excellent and practical "suggestions" respecting the management of asylums are contained in the Appendix of this Report, all of which we would gladly reproduce, but that our analysis of the Report generally has far exceeded what we had anticipated. We must therefore content ourselves with the following extract:—

*"Suggestions. Resident Medical Superintendent.*

"This officer should be duly qualified both as a surgeon and apothecary (whether possessing a degree or not). He should have *paramount* authority in the asylum, and be precluded from private practice, and should devote his whole time and energies to the duties of his office. He should be a person of high character and experience, and be liberally remunerated. With regard to salary, the Commissioners find that in the various county asylums the salaries vary from one hundred and fifty to five hundred pounds per annum, to which is to be added, where (as is commonly the case, and is always most desirable) he resides on the premises, furnished apartments, with coals, candles, and generally also board, or an equivalent in money for the same. The Commissioners consider it the preferable arrangement that there should not be any visiting physician, or other medical visitor with a salary, but that in lieu thereof the resident medical superintendent should have the power to call in medical or surgical advice, on extraordinary occasions, at the expense of the asylum. If there are honorary physicians or surgeons attached to the institution, their services would be gratuitous, unless when they were so specially called in.

"In the event of the asylum becoming full, or nearly full, it may be advisable to appoint an assistant medical officer, with board and lodging, at a moderate salary, say, from fifty to eighty pounds per annum. Such an arrangement has been adopted in many of the large asylums, e. g. Lancaster, Kent, Stafford, &c."



3. With reference to the voluminous "Blue Book" containing "a Report of the Commissioners in Lunacy on the state and management of Bethlehem Hospital," we deem it quite unnecessary to occupy our limited space by doing more on the present occasion than recording it as our decided conviction, after a perusal of the evidence on both sides, that the medical officers of that institution, more especially Dr. Wood, the then Resident in charge, upon whom the brunt of the battle fell, were "more sinned against than sinning," in connexion with the charges of cruelty and neglect that were brought forward, and the public odium which was endeavoured to be so unsparingly heaped upon our profession in their persons. "A house divided against itself cannot stand;" and if ever there were divisions in a house or an institution, it was in Bethlehem Hospital, amongst the non-professional authorities, from the governors and treasurer to the matron and steward. Indeed, our only wonder is how matters got on as well as they did, and that still graver and more serious abuses had not occurred within its walls. It certainly was not from either the assistance or co-operation of these parties, who, instead of being ancillary to the medical men in carrying on the duties of the hospital, by receiving their suggestions and attending to their directions, enacted quite a contrary part.

The high-handed manner especially of the treasurer, a paid lay officer, towards Dr. Wood, the only resident medical man, upon whom the whole charge in reality of the hospital devolved, was truly most insulting and derogatory. Then again the matron, in her way, was despotism personified on the female side of the house. And here we think it worthy of special remark, that all the abuses stated to have been perpetrated and systematically carried on were chiefly on the female side in the notorious "basement" story. We are quite unable to pursue this painful and discreditable subject further, and though we had intended giving some quotations from the Report before us, we are compelled to satisfy ourselves with but one on the present occasion, which we take from Dr. Wood's "observations," and with the spirit and scope of which we fully concur:—

"The discipline of a regiment could not be maintained without the services of subordinate officers; neither could a large number of servants, whether in a private establishment or in a public institution, be properly controlled without the intervention of some authority between them and the master or superintendent; and yet such has been the position of affairs at Bethlehem. With very imperfect organization, divided authority, and little co-operation, but with the demon of discord constantly brooding over the place, it is

not surprising that Bethlehem Hospital has failed to realize the expectations of those who felt that, with the sanction of royalty, possessed of ample revenues, and commanding the services of the most eminent men of the day, it ought to have become a model institution."

4. Dr. Stewart's Twenty-third Annual Report of the Belfast District Hospital for the Insane brings the affairs of that institution up to the 31st March, 1853, the terminating period at which all the public hospitals for the insane in this country complete their yearly cycle, a general regulation, it may be observed, which has much to recommend it. The annual statement affords at a glance some of the more important "facts" of the years preceding.

	Males.	Females.	Total.	Males.	Females.	Total.
On the Books, 1st April, 1852, . . . .	..	..	..	152	128	280
Admitted since, new Cases, . . . . .	45	61	106			
Do. Relapsed, . . . . .	5	4	9			
				50	65	115
Total under treatment during the year, .	..	..	..	202	193	395
Discharged recovered, . . . . .	26	41	67			
Do. relieved, . . . . .	9	12	21			
Died, . . . . .	14	11	25			
				49	64	113
Leaving in the House, 31st March, 1853,	..	..	..	153	129	282

Daily Average Number of Patients during the year, . . . . 280.01

Average Expense of each Patient including every charge, £12 17s. 11d.

Of the fifty males admitted during the year, seventeen were married, and thirty-three single; and of the sixty-five females, thirty-one were married, five widows, and twenty-nine single. With reference to age, ten were under twenty years; thirty-nine from twenty to thirty; thirty-three from thirty to forty; eleven from forty to fifty; fifteen from fifty to sixty; and seven from sixty to seventy. Alleged causes of insanity were assigned in only fifty-eight of the 115 admissions; and of these twenty-five were physical (intemperance being the chief), and thirty-three moral. The subject of criminal lunatics being no longer received into the district asylums is specially referred to as a great relief to those establishments, a constant source of irritation to the patients in ordinary being thus removed, and the happy results, accordingly, amply compensating for the labour and time so largely expended in accomplishing an object so desirable. The dietary of the patients (at the instance of the physicians) was



improved during the year by an increase of twelve ounces weekly of animal food to each patient, the former allowance being but six ounces. The accommodation continued insufficient during the year, the house being crowded throughout, and great difficulty, as might be expected, was experienced, in its daily conduct, as well from this source as from the new buildings in course of erection for the last twelve months, which the Report states were progressing in an exceedingly tedious manner, and without any prospect of being completed at the specified time. These additions to existing asylums we, in a former review, considered exceedingly questionable, and we see no reason to change that opinion, but rather more strongly to reiterate it. Great expense and continuous excitement must be the unavoidable concomitants by this mode of procedure; the former never giving any satisfaction in proportion to the large sums expended in endeavouring to improve what cannot be improved from architectural difficulties, and the latter necessarily very injurious to so peculiarly circumstanced a class of patients. Entirely distinct buildings, when requisite, should be erected on another portion of the grounds, when such are extensive enough to admit of this being done, or, if not, a separate establishment entirely should be provided in a convenient part of the district. Every day's experience is making it more and more evident that large establishments for the insane are most undesirable. But so long as economy continues to be the *primum mobile*, the one thing needful in those matters, and not, on the contrary, what is best for the cure or amelioration of so dire an infliction as insanity, it will be with little avail, possibly, to denounce it. We but discharge our duty, however, in again and again protesting against the system under consideration.

Intemperance, as a fruitful exciting cause of insanity, is specially referred to by Dr. Stewart, and a suggestion made, deserving, we think, of the best consideration, which is, that reformatories for habitual drunkards should be established.

It appears by the Report that the question of erecting a chapel and appointing chaplains had been one of anxious deliberation to the governors at a number of meetings, the invariable result being that the proposal was negatived by a large majority. At these meetings we find men eminently qualified to give sound advice in consequence of their position in society, of their local knowledge, of their education, of their professional pursuits, of the absence of all interested motives, and, above all, of their experience of the institution. Their solemn decision was, "that after mature consideration of the

peculiar circumstances of the population of this district, the Board are of opinion that the system of religious instruction<sup>a</sup> adopted on the 3rd of March, 1834 (the Bishop of Down and Connor presiding), and which has hitherto been found so successful, should be continued; and that consequently the erection of a chapel, which seems to involve a numerous staff of chaplains, and the probable introduction of religious controversy and excitement among the patients, is inexpedient."

It is well known that, of all the exciting causes of insanity, religious enthusiasm is one of the rifest; that its effects are the most lasting, and the prospects of the sufferer the most hopeless. Often in the course of a long professional life have we witnessed the miserable effects of mistaken duty in religious observances, the gradual encroachments of an excited imagination on a weakened intellect, and the final break down of an overpowered mind. What, in such cases, are the beneficial effects expected to be produced by imbuing the mind with that which originally caused its overthrow: will it restore the fabric?—are men to be cured of a disease by that which has been proved to be one of its most fertile causes? The decisions of three Lords Lieutenant on the chaplain question, as regards the Belfast Asylum, have affirmed the principle of religious homœopathy by prescribing a remedy capable of producing the same symptoms as those of the disease; if the principle is to be carried out at all, why should it not be done in harmony with itself,—by the administration of infinitesimal doses? The plan would answer a double purpose; the Lord Lieutenant must approve of it inasmuch as it is only the sequel of his own principle; the Board of Governors must be satisfied with it, because it is nothing more than that on which they have hitherto most prudently acted. All parties would be then agreed:—

“Concordiâ parvæ res crescunt, discordiâ  
Maximæ dilabuntur.”

Religion—the never-failing consolation and ultimate re-

<sup>a</sup> This carefully guarded and efficient system is expressed in the following resolution of the Board:—

“That on a wish being expressed by a patient to be visited by a minister of religion, the manager of the asylum, if he is of opinion that such visits are not likely to produce an injurious excitement in the patient, but are likely to be beneficial to him, be authorized to request the attendance of a clergyman of the Established Church, whether the parochial clergyman, or, with his permission, the clergyman of the parish to which the patient belonged before his admittance; or of a minister of such other denomination as the patient may have belonged to before his admittance, if he should give a preference to such other minister; subject, however, to the same local limitation as in the case of the clergyman of the Established Church.”



source of the Christian of sound mind—requires, like other remedial agents, the co-operation of skill in determining the condition of the person in whom it can produce its beneficial effects, and the extent to which it should be exhibited. The combination of medicine and religion professed by the monks of old was, after all, not without its advantages. The one taught the time, the other the manner, of calming the disordered mind by the exhilaration of hope and trust in divine mercy. We are of opinion that a clergyman, unaided by the physician, is not in a condition to be intrusted with the religious management of the insane. The physician, accustomed to the aspect and character of the sufferer, knows by a glance the moment when he is accessible to the consolations and exhortations which are calculated to calm his mind and reach his heart. Religion is not to be urged during the period of incapacity to appreciate its value, and when resistance, in proportion to importunity, is a characteristic of that miserable state. To allow the uncontrolled exercise of the clergyman under all conditions of the patient,—perhaps to subject a demented creature to suffer under the distracting influence of proselytizing arguments,—would in a great many cases defeat its end, and create a permanent antipathy to the well-intended but indiscreet ministry of the pastor. Besides all this, have we not some knowledge of the ill effects of the uncontrolled exercise of clerical duties by pastors of different creeds performing their office under the same roof? Have we not evidence of the collisions which have taken place; the animosities which have been engendered; the vindictive accusations which have provoked exasperated defences; and the acrimonious partizanship that distracted the investigations which followed? What security have we that all these evils might not result from the antagonism of zealous pastors frequently replaced, and therefore little accustomed to the studiously concealed peculiarities of madmen. Religious partizanship would disseminate a wild and dangerous fanaticism amongst lunatics; and he would be a sanguine man who should expect to maintain the “comfort and tranquillity” which are now admitted to be so conspicuous in the Belfast Institution.

By the Order in Council, 1843, the Board of Governors of the Belfast Asylum were enjoined to make regulations for the admission of clergymen, to visit in that character any patients of their own persuasion, and for the celebration of Divine Service before such of the inmates as their respective clergymen *and the physician shall deem fit to attend the same*. In this unrepealed Order of Council is embodied the very principle which

we here advocate, and which has hitherto been acted upon. The clergyman is not to act *ex officio* without the approval of the physician: he is not to enter the house as a matter of right, and exercise his functions as an independent chaplain; but the Board are to make regulations for his *occasional* admission when sent for. That Order in Council was never known to have worked badly or to have been inefficiently carried into effect. Quite the reverse; for the accredited reports of the Government Inspectors agree in representing the management as productive of happiness and tranquillity. Why, then, by new and unnecessary interferences and regulations, stigmatize and tacitly condemn what has not been arraigned?

There is, however, another aspect of this question, and one the most important to our profession, which has hitherto not been treated upon in the angry controversy that has been for so long a time carried on between the Government and the Governors of the Belfast Lunatic Asylum,—its purely medical bearing. What are the District Lunatic Asylums of Ireland? *Prisons for the safe detention of the insane, or hospitals for the treatment of insanity!* If the former, regard the inmates as mad prisoners, give them hard labour, punish them with low diet, chains, and close imprisonment, and compel them each Sabbath and holiday to attend the set services of the religion which they may select for themselves. If the latter, place the afflicted inmates under the care of a wise physician, let him minister through the body to the mind diseased, using all the measures, medical and moral, he may deem fit, aided too, when his judgment directs, by the ministrations of religion. In private practice a physician is called upon to treat an hysterical patient whose symptoms border on insanity,—demands he the assistance of a clergyman to supersede him in his duties? Or it may be a case of acute mania,—does he order the patient to attend the public service of his Church? In their own families, for their own friends and relations, the public implicitly intrust the management of those unhappily afflicted in their mind to the physician; why depart from this system with the pauper lunatic? We assert, in a word, that these asylums are not gaols or poor-houses, but *hospitals for the treatment of insanity*, a special disease, but to be treated, like other diseases, by the medical attendant under whose care those afflicted with it may be placed, and by him alone.

5. Dr. Forbes Winslow, the able and persevering editor of the *Journal of Psychological Medicine*, cannot be too highly commended or generally supported for his indefatigable zeal in



the branch of medicine to which his periodical is specially devoted. Each number is more and more interesting, being always replete with matter of the utmost value, and this not merely to the psychological physician, but also to the profession generally, and in part to the reading portion of the public at large. The contents for October of last year, January, April, and July of 1853, the numbers now before us, fully bear out the above statement. We only regret our inability even to particularize the several articles of the numbers enumerated, so pressed are we for space; but we confidently recommend the Journal itself to our readers as one which will amply repay an attentive perusal, and be a most important, indeed we might say an absolutely indispensable, addition and acquisition to the library of every professional man who wishes to keep pace with the daily advancing and increasingly important science of which it is the British exponent. To show that Dr. Winslow's literary powers and high personal worth are not unappreciated, we may, in conclusion, observe that the very high distinction—an honorary degree of Doctor in Civil Law, was conferred upon him in June last by the University of Oxford.

6. Dr. Duncan's volume is a work well worthy of being closely studied, containing matter very instructive and deserving of the best consideration, of both the professional and the general reader. The author writes like a man who knows his subject well, and accordingly the several important points discussed by him are treated in a thoroughly practical manner. The work is divided into fourteen chapters, which are entitled as follows:—

“Popular errors as to the nature of Insanity. Definitions of Insanity. Evidence in proof of Insanity. Suicidal Insanity. Homicidal Insanity. Moral Insanity, Cleptomania, Pyromania. Religious Insanity. The Management of the Insane. The Curability of Insanity. The Confinement of the Insane. Actions for false Imprisonment. Commissions of Inquiry. On the abolition of all Proprietary Lunatic Asylums, and the establishment of National ones in their place.”

The chapter on “Religious Insanity” is, we conceive, unexceptionable in matter and argument on that so-called species of mental disturbance. The following short extract in connexion with it is much to the purpose, and with the author's views we quite agree:—

“When we read in books, as we sometimes do, of cases of insa-

nity which are set down as the result of religion, it will be found, on a careful examination, that either the origin of the cases has been grossly misapprehended, so that religion had nothing whatever to say to the production of the malady, or that what has been called religion was only some of those perversions of the truth which did not properly deserve the name."

The annexed extract, taken from the chapter on "the Management of the Insane," is in the best spirit, and from many years' "actual observation" ourselves in the treatment of the insane we can bear the fullest testimony to its soundness:—

"It ought, I am persuaded, not only on the immutable principles of right and wrong, but from actual observation in a large number of instances, to be laid down as a fixed rule, never to mislead a lunatic by false representations, or by flattering promises, which the person making them has no intention of performing. A simple, straightforward course, uniformly followed, directed at the same time by sound judgment, will almost certainly secure the confidence of the patient, and get him to do with comparatively little trouble what, under a different system, no amount of persuasion would succeed in effecting."

We regret that we cannot afford space for more extracts from Dr. Duncan's admirable volume, which we earnestly commend to the notice of our readers.

7. Dr. Davey's contribution to the literature of psychology "On the Nature and Proximate Cause of Insanity" is stated by its author to have been read in substance by him at a meeting of the Medical Society of London, in January of the present year. He adds further that the principles of pathology and therapeutics set forth in it were first published in 1842, in an Essay entitled "On the Pathology of Insanity," and that since then he has unceasingly insisted on those principles both orally and in published writings; and, what is more, *practically* carried them out in his private and public capacities. The author specially directs the attention of Dr. Henry Monro to this statement, that gentleman having, he observes, published in 1850 a small book, in which not only are the same views advocated, but of which he states he has, "strange to say, claimed the parentage or first authorship."

The author appears to have an unfortunate facility of coming into collision with other parties. It is not so very long since, in one of our reviews on insanity<sup>a</sup>, a work of his styled "Contributions to Mental Pathology," came under our notice,

<sup>a</sup> Volume x., New Series.



which was surcharged with a supertartrate spirit from beginning to end; and here again, in our next meeting in cold type tartaric acid is still in excess, and a *rechauffé* even of that same curious "contribution" given in the form of a "Postscript," occupying eighteen pages, being nearly a fourth of the whole book now published. One would be almost tempted to think from this circumstance that the object of the present volume was chiefly to gratify an unsubdued hostile feeling and personal pique to certain parties with whom the author was so ill-associated a few years ago in Ceylon. This, however, is a matter we need not pursue farther than to call Dr. Davey's special attention to the following extract from his work now before us, which we think might be useful as well for himself as the public, on whose behalf he has given it, to meditate over; it is from Good's Study of Medicine:—

"The passion of *anger*, and all its compounds,—suspicion, revenge, and especially jealousy, must make a much wider inroad upon the domain of a well-ordered mind, and introduce confusion and derangement. Nor is the effect confined to the head, for a stimulus thus virulent affects the entire system, and, as we have already observed, has a peculiar sympathetic influence on the liver, producing in many instances a very diseased secretion of the bile, and altering it in a very short period, not only in its quality, but in its quantity. At the same time every vessel is exhausted of its irritability, and the whole strength is so prostrated as occasionally to lead on to obstinate faintings, convulsions, and death."

For ourselves we cannot see anything that is so very specially new or imposing in Dr. Davey's views as to the nature and proximate cause of insanity, defined by him to be a "*morbid sensibility of the gray matter of the brain.*"

"I have come to the conclusion, that insanity is most decidedly a disease of debility, and this fact is made evident, not only by its occurring very much more commonly than otherwise to those who have either inherited a weakly and delicate constitution, or whose excesses or extravagancies of life, or misfortunes, have induced such a state of things,—but by its attacking persons who may happen to be exposed to any accidental or temporary cause of exhaustion, such as hemorrhage, night-watching, the puerperal state, &c. . . . The symptoms which characterize the mental disorder in each are not those belonging to an increased vascularity; the heart's action is rapid, but *feeble*; the temperature of the skin is not generally increased, nor is the countenance flushed. . . . The wildness of manner, and automaton-like movements which mark an attack of mania, are, then, the direct effects of a morbid sensibility of the cineritious neurine, or gray matter of the brain;—what was 'use,'

or power, has become ‘abuse,’ or *action without power*; and this the consequence of the application of a stimulus too intense, or long-continued, or disproportionate, in some way, to the healthy physical capacities of that portion of the cerebral structure named. *In the gray matter of the brain, then, is located the proximate cause of insanity.*”

So much, then, for “the principles of pathology set forth.” Dr. Davey’s “therapeutics” have not much of novelty in them either. They are contained in the following paragraph, with which we must take leave of his book:—

“The *treatment* found most efficacious in lunacy is precisely that required in the management of the “*neuroses*;” whenever cerebral derangement, or neuralgia, or chorea, or tetanus, or asthma, or angina pectoris, is found complicated with local inflammatory disorder, increased vascularity of the structures involved, local bleeding is practised with good effects; counter-irritation, and mercurial alteratives (with the occasional employment of opiates), are then also prescribed. But apart from such a complication in those several maladies named, the indications of treatment required are equally applicable to any one or other of them. It will be, I apprehend, readily conceded, that in *all*, it is of the first importance to establish a normal action of the *prima via* (?), thereby insuring a healthy state of the secretions and excretions, both as regards quality and quantity; in *all* the necessity to counteract the debilitating influences of diseased action in the system by the use of tonic remedies, as quinine, steel, &c., and so to preserve the constitutional powers, as far as possible, unimpaired, is sufficiently apparent to every practical man.”

8. The *brochure* of Dr. Seaton, entitled “the Present State and prospects of Psychological Medicine,” has for its object the improvement of the laws relating to the cure and treatment of lunatics in licensed houses, and with much spirit and energy its author denounces the present order of things in connexion with private establishments for the insane. On this head Dr. Seaton observes:—

“The truth is, that in the majority of cases, the chief, in many the only, concern, seems to be how the patient may be *safely kept*; hence we see that proprietors of asylums are very frequently non-medical men,—indeed frequently women, persons merely trading for a living as private gaolers, whose only business is the *safe keeping* of the lunatic; but as no prison is complete without a doctor on the staff, there is of course a regular visiting medical attendant to the asylum, so that if the lunatic should be attacked with a fever, or an inflammation, he may die decently. With the psychological management of the patient the medical man has nothing to do, and psychological management has nothing to do with the patient.



Strange ! that in this country, and in this age, patients labouring under disease so fearful, and frequently so mysterious in its origin, and insidious in its progress, as to require for its elucidation medical attainments of the highest order, and even then often defying all human efforts for its alleviation,—strange, I say, that such patients should be left to the treatment of non-medical, and not unfrequently altogether non-educated persons.”

In common with our author, it has frequently struck us as being a most anomalous and pernicious state of the law, that any party (leaving ignorant men and women keepers of the insane altogether out of the question) but a thoroughly well-educated member of the profession should be permitted to enter upon so responsible a duty as the care and treatment of the insane. The large number of persons entirely deficient in either educational or professional status sanctioned by the law of the land to have and retain lunatics under their charge, looks, it must be admitted, very like, to quote again from our author, as if “the direct tendency of every step taken by the Legislature on the subject of lunacy was to degrade instead of to elevate the character of all who may be engaged in its investigation. Every Act of Parliament seems to be founded upon the assumption that none but knaves would have anything to do with lunatics.”

In remarking upon the English Commissioners’ “Seventh Report,” in our present review, we have referred to the very unfavourable state of the “licensed houses” in England; and it is certainly no great wonder that the official report should be so condemnatory, when those establishments are in so many instances presided over, as Dr. Seaton informs us, and no doubt truly, “by persons merely trading for a living as private gaolers.” The commission in lunacy in England, Dr. Seaton justly observes,—a remark we have incidentally made ourselves elsewhere,—should “as a rule, all other things being equal, be filled by medical men;” and also, that as the medical profession is directly concerned in all their regulations, “it should be duly represented at the Board, by the President of the College of Physicians and the President of the College of Surgeons being *ex officio* members thereof.”

With these few quotations and remarks respectively, we must leave Dr. Seaton’s pamphlet, which appears to us as being well deserving of the notice of all parties directly interested in the several matters discussed in its pages.

9. The pamphlet which has been forwarded to us relating to Cretins and Idiots, and giving an account of the progress of

the institution founded for their relief and cure, is of a very unpretending nature, but not the less interesting and suggestive. There are few persons, we presume, who have not heard of the name of Guggenbühl, a man worthy of imitation in all lands for genuine benevolence and philanthropy. We are proud to claim him as a member of the medical profession, and to hold him forth as one to whom society at large owes a deep debt of gratitude for the lasting benefits which he has been so privileged and successful an instrument in conferring upon the unfortunate cretin and idiot, a class of human beings so miserably low in intellect, and so debased in habits and propensities, as to be scarcely above the level of the brute.

Dr. Guggenbühl, a native of Zurich, happening in the year 1839 to observe a poor cretin muttering a prayer before a crucifix, the nature of which he did not comprehend, was so struck by this circumstance that he became immediately convinced there was a dormant mind in cretins, and determined to make them his peculiar study, he rightly conceiving that "a being in whom it was possible to awaken a thought of God was worthy of every sacrifice and labour; it being of more value to save one human soul than to gain all the treasures of the world." Actuated by so exalted a principle, he took up his abode in the valley of Cleinthal, in the Canton Glarus, where cretins abound, when, after some attempts to improve them, he became so satisfied of the possibility not only of their relief but of their cure, that he renounced all other medical practice to devote his whole energies to their behalf. For this purpose he fixed upon Abendberg, an elevated spot on the Alps, for erecting an hospital. This place was singularly adapted for the object in view, being sheltered by mountains from cold winds, and affording in front a splendid and varied prospect; and, being 3000 feet above the level of the sea, was beyond the elevation at which cretinism exists. In this place he commenced in 1841 with twelve children in a very degraded state, physically and intellectually; but after the lapse of a period less than two years, all were more or less benefited, and some of them nearly cured. The following description of one of the patients by Dr. Twining, who visited Abendberg in 1842, will give some idea of the apparently hopeless task Dr. Guggenbühl had undertaken—

"On a bed lay a female child of about three years of age, exhibiting cretinism in its highest degree. She was wrapped in a cloth, so that her face only was visible. The lids of the eyes were constantly quivering, and the eyes rolling; the tongue large, and so swollen that the saliva was running from the mouth; and all her



limbs were moving convulsively. So dreadful a sight could scarcely be imagined: a human being, denied not only of all which characterizes a rational creature, but even a healthy brute animal,—and yet even she is improving; so that the day will come—whether it be a year, or even two years distant—when she may know the blessings of health and knowledge.”

Numerous are the institutions now in full and successful operation on the Continent for the cure and treatment of cretins and idiots, all having for their model the original one at Abendberg, presided over so auspiciously by Dr. Guggenbühl, whose name has become of European renown for his noble and disinterested efforts for their amelioration and restoration to human society. In the United States of America also the same good work has been going on for some time past, headed by Dr. Howe, of “Laura Bridgman” celebrity. In England, likewise, much has been done and is doing for idiots. In our review last year “on Insanity and Hospitals for the Insane,” we gave a full account of the Parkhouse Idiot Asylum at Highgate, and the one at Essex Hall, Colchester, from the sixth Annual Report of the Commissioners in Lunacy, neither of which institutions has been noticed in their present Report, an omission which appears somewhat strange, but both of which, we are happy to find by the pamphlet before us, are continuing in a prosperous state. This pamphlet also informs us that in Scotland, where fatuous children are numerous, an idiot institution is about being put into operation through the individual benevolence of Lady Jane Ogilvie, who, highly to her praise is establishing an asylum for imbecile children at Baldovan, Forfarshire. When will our own country make a move in this “labour of love”? In the district hospitals for the insane alone, there are, according to this year’s Parliamentary Report of Drs. White and Nugent, 177 idiots, which, we presume, must be very far from representing the real number of that class in Ireland.

10. Mr. Noble’s volume, bearing the title “Elements of Psychological Medicine,” has just been published, with the modest announcement of its being “an introduction to the practical study of insanity, adapted for students and junior practitioners.” And from the cursory glance which the short time that has elapsed since its publication has enabled us to give it, we think it well calculated to fulfil this mission. The work does not profess to be a systematic treatise of its kind, but is composed of a series of lectures delivered by Mr. Noble at the Chatham-street School of Medicine, in Manchester, and published by request

at the close of the course. Coming thus before the profession, the author is deserving of every consideration, his chief design being to “*introduce* the topic of mental derangement in a scientific form to those who have previously given it no special consideration.” Seven lectures are embraced in the volume, and no point of practical moment that we can perceive has been omitted to be brought forward in them, and the subjects generally are treated fully and clearly. We might, with advantage to our readers, give extracts from this published course of lectures, but we are obliged to content ourselves with a single one in reference to the treatment of insanity, comprised, as the author states, “in a brief formula of a few words.” It is as follows:—

“Deal with the physical characteristics which may accompany insanity as you would deal with them under other circumstances, and act in correspondence with sound principles of medical practice; always remembering that, with high nervous susceptibility, depletion will be but indifferently tolerated [we would go farther than this and say not at all—REV.], more especially when the ailment refers itself to causes essentially physical. For the relief of insanity itself, properly considered, trust almost entirely to hygienic and moral treatment, withdrawing circumstances likely to aggravate the special features of individual cases, and supplying to the mind such objects of attention and excitants to activity as may be best calculated to arouse and sustain a new and more healthful mode of operation.”

11. The papers generally, in the respective numbers of the *American Journal of Insanity* received by us since our last Review, are of a practical and useful character as usual, and must prove highly interesting to those especially who are engaged in psychological practice. But before we proceed further in particularizing their contents, we must strongly protest against a paragraph headed “*The Insane Poor of Ireland*,” which, to our great surprise, we read in the number for July, 1849, the first of the series now before us. We have always hitherto admired the extreme fairness, and accuracy, and friendly spirit of the conductors of this Journal, in its contents and statements, editorial and otherwise. The brief article before us, however, is very contrary to this estimate of ours, and though it does not appear to be originally chargeable to our transatlantic contemporary, yet we cannot excuse it on this account for giving so evidently prejudiced and disparaging a view of the institutions for the insane in Ireland either countenance or currency. We say this in no unfriendly spirit, and



we hope it will be received accordingly. The first palpable misstatement is, "that there is no medical man at the head of any one of these asylums, nor any resident medical officer." Now in all earnestness we ask the editor how he could believe and circulate such a false statement. The Irish asylums had from the first the most eminent medical men in their respective localities officially attached to them; they did not certainly reside in the asylums, but it is sufficient for our purpose that they were not so altogether mismanaged as to have "no medical men" at all, as the paragraph in question would lead an ordinary reader to suppose. And again, so far back as in 1843, one at least had a "resident medical officer." Secondly, it is contemptuously stated, that if they had not a resident medical officer, they had "a superabundance of boards of governors, nobility and gentry." Thirdly, "that they are not curative institutions, but mere prisons for the insane." Our simple reply to this is to examine the Parliamentary Reports, when it will be seen that the cures in the Irish asylums are considerably greater than in other countries. Fourthly, it is also stated, "that the records and reports of these establishments are said to be valueless;" may we ask, by whom? Now we assert, that the Irish Asylum Reports are second to none for valuable information. One word more, and we shall dismiss this matter. The American Journal regularly receives our own periodical; in our number for November, 1850, was an extended review of the Irish in common with other insane hospitals, founded on the best and most authentic official Reports. We presume our contemporary did not pass by unread, or at least unlooked at, that review, and if so, ought it not, in common fairness between country and country, institution and institution, have given from it a *corrective* to the totally unfounded (we might say calumnious) statement we have now called attention to. It is not, however, yet too late to make the *amende honourable*.

We have perused with much pleasure Dr. Ray's valuable paper in the foregoing number, entitled "Statistics of Insane Hospitals." All Dr. Ray's writings that we have read are characterized by solid reasoning, and an evident practical acquaintance with whatever subject in his important sphere of the profession he may treat upon.

We most fully agree with him, that the methods in practice of reporting and recording the results of treatment in hospitals for the insane require that greater uniformity and precision should be observed; and we only regret that we cannot transcribe several portions of this essay of his into our own columns.

We can but recommend it to the best attention of all superintendents.

In this number also is contained a Report of the Fourth Annual Meeting of the Association of Medical Superintendents of American Hospitals for the Insane; a body we see plainly exercising a large and most salutary influence in all that relates to the insane in the United States, and whose example and steady and persevering line of conduct would not be amiss for similar associations to follow on this side of the Atlantic.

The number for January, 1851, has another paper from the pen of Dr. Ray, "On the Legal Relations of the Insane," which, coming from so highly qualified a source, should be received with every confidence. Next, we have an article of much interest "On the Cretins of Switzerland;" and a reprint of Dr. Churchill's paper "On the Mental Disorders of Females" as originally published in our own Journal, which tells unmistakably for the high value set upon it by our American brethren.

Passing on to the number for October, 1852, we have a long paper on a curious theme by Dr. Stribling; "The employment of male attendants in the female wards of Lunatic Hospitals." This is assuredly a novel and an original idea on the part of Dr. Stribling. To us the proposition appears very much of the "go-ahead" school, and very unlikely to receive any countenance from the *sane* portion of the community. An account of "Institutions for the Insane in Prussia, Austria, and Germany," by Dr. Pliny Earle, is a very readable and instructive paper. In some notices of reports of English asylums the following observations with reference to the use of tobacco in the Rutland Asylum occur:—"We were surprised to see one item for an article which we thought the progress of the times had entirely excluded from all British asylums, as it undoubtedly has from most American institutions; we allude to a charge of £12 4s. 2d. for *tobacco* and snuff." And again:—"Tobacco forms no inconsiderable item in the expenditure of the Littlemore Asylum, the charge for this article alone being no less than £44 2s. 6d"!

We have, lastly, to call attention to "Article III." in the number for July of the present year, entitled "A Report on the Organization of Hospitals for the Insane, made by the Standing Committee of the Association of Medical Superintendents of American Institutions for the Insane at its Meeting in Baltimore, May 10, 1853." We would gladly quote the whole paper, it being a very important and ably drawn-up official document, but we can only manage to make room for the



annexed extracts, with the scope of which we entirely concur:—

“The physician should be the superintendent and chief executive officer of the establishment. Besides being a well-educated physician, he should possess the mental, physical, and social qualities to fit him for the post. He should serve during good behaviour; reside on or very near the premises; and his compensation should be so liberal as to enable him to devote his whole time and energies to the welfare of the hospital. He should nominate to the Board suitable persons to act as assistant physician, steward, and matron; he should have the entire control of the medical, moral, and dietetic treatment of the patients; the unrestricted power of appointment and discharge of all persons engaged in their care; and should exercise a general supervision and direction of every department of the institution.

“The assistant physician—or assistant physicians, where more than one are required—should be graduates of medicine, of such character and qualifications as to be able to represent and to perform the ordinary duties of the physician during his absence.

“The steward, under the direction of the superintending physician, and by his order, should make all purchases for the institution; keep the accounts; make engagements with, pay, and discharge, those employed about the establishment; have a supervision of the farm, garden, and grounds; and perform such other duties as may be assigned him.

“In institutions containing more than two hundred patients, a second assistant physician, or an apothecary, should be employed; to the latter of whom other duties, in the male wards, may be conveniently assigned.

“If a chaplain be deemed desirable as a permanent officer, he should be selected by the superintendent, and, like all others engaged in the care of the patients, should be entirely under his direction.

“In every hospital for the insane, there should be one supervisor for each sex, exercising a general oversight of all the attendants and patients, and forming a medium of communication between them and the officers.

“In no institution should the number of attendants on the patients be in a lower ratio than one attendant for every ten patients; and a much larger proportion of attendants will commonly be desirable.

“The situation and circumstances of different institutions may require a considerable number of persons to be employed in various other positions; but in every hospital, at least all those that have been referred to, are deemed not only desirable, but absolutely necessary, to give all the advantages that may be hoped for from a liberal and enlightened treatment of the insane.

“ All persons employed in the care of the insane should be active, vigilant, cheerful, and in good health; they should be of a kind and benevolent disposition, be educated, and in all respects trustworthy; and their compensation should be sufficiently liberal to secure the services of individuals of this description.”

12. The Twentieth Annual Report, by Dr. White, of the Carlow District Hospital for the Insane Poor, for the year ending 31st March, 1853, gives the following Table, showing the number of admissions, discharges, and deaths:—

	Males.	Females.	Total.	Males.	Females	Total.
Remaining in Hospital 1st April, 1852, . .	103	96	199			
Admitted to 31st March, 1853, . . . . .	40	23	63			
Re-admitted,—having relapsed, . . . . .	5	6	11			
Total under treatment during the year, . . .	.	.	.	148	125	273
Discharged to 31st March, 1853, “recovered,”	10	16	26			
Do. “relieved” or “removed by their friends,”	3	4	7			
Do. “Died,” . . . . .	6	4	10			
Do. “Escaped from the Hospital,” . . . . .	1	0	1			
Do. “Transferred to Kilkenny District Hospital,” . . . . .	28	26	54			
Total of Discharges during the Year, . . .	.	.	.	48	50	98
Remaining in Hospital 31st March, 1853, .	.	.	.	100	75	175

Dr. White complains much of several cases having been removed by their relatives prematurely, three of whom had subsequently to be brought back to the hospital. The simple remedy for an evil of this kind would be to have it understood, on the admission of a patient, that he would not be discharged until the medical superintendent considered it safe to do so. Let this plan be properly followed up, and the grievance referred to will soon cease. Some additional land was obtained during the year, which Dr. White states was productive of the best results, by affording a great increase of useful occupation for the inmates. After some special and awkwardly introduced observations respecting “the system of appointing chaplains to the hospital,” Dr. White refers to the item of “tobacco and snuff” consumed during the year, at a charge of £15 1s. 8d., defending its use on professional grounds. The arguments, however, had recourse to are, in our view of the case, quite beside the question, and opposed to the rule of practice even in the American hospitals, as will be seen from the extracts we have just given.



13. The usual *balance-sheet* form of Annual Report of the Maryborough District Lunatic Asylum affords the following statistical and other information:—

“RETURN of Patients for one Year, to 31st March, 1853.

	King's County.		Queen's County.		Westmeath County.		Longford County.		Total.
Admitted from 1st April, 1852, to 31st Mar., 1853,	15		19		10		2		46
Re-admitted, having relapsed, same period, . .	3		4		1		1		9
Discharged, cured or relieved, same time, . . .	15		11		4		2		32
Do. unrelieved, taken out by their friends, . . . . .	0		0		0		0		0
Died, in one year, to March 31st, 1853, . . . . .	8		10		6		3		27
Patients of each sex remaining in Asylum on 31st March, 1853, . . . . .	M.	F.	M.	F.	M.	F.	M.	F.	
	27	24	30	22	25	33	12	11	184
Of those remaining are criminal or dangerous lunatics, . . . . .	7	6	2	1	12	10	5	3	46
Population of each county, by Census of 1851, . .	112,877		109,747		107,510		83,198		413,330

“DIETARY.

“*Breakfast for every Day.*—One quart of stirabout, made of 8 oz. of oatmeal; one-third quart of new milk.

“*Dinner for four Days.*—12 oz. of bread for males; 10. oz. for females; one pint of new milk.

“*Dinner for three Days.*—One quart of soup, made of half pound of beef and bone, or beef heads; 12 oz. of bread for males; 10 oz. for females.

“*Supper for every Day.*—6 oz. white bread; one-third quart of new milk.

“Buttermilk has been entirely superseded as an article of diet for patients, and new milk substituted in its place since October last, at the suggestion of Dr. White, one of the Inspectors-General.

“EMPLOYMENT.

“The male patients have ample and almost constant employment in the tillage of the land. Their labour last year caused a saving to the public of £138 10s. 10d.”

With reference to the health of the inmates during the year, Dr. Burton, the Resident Physician, reports as follows:—

“In conjunction with Dr. Jacob, I have to remark that a great degree of ill-health has marked the past year, especially the latter

portion of it, both amongst the patients as well as the servants: attacks marked by accessions of fever, derangement of the mucous membrane, catarrh, and finally dysentery, have made sharp inroads upon the former inmates, proving fatal in many instances where previous debility, advanced age, and a highly scrofulous tendency accompanied them: these cases have respectively been brought under your notice by Dr. Jacob at each monthly meeting."

14. The Kilkenny District Lunatic Asylum is one of the newly created institutions for the insane poor of this country, and was opened for the admission of patients from the county and city of Kilkenny on the 1st of September, 1852, under the superintendence of Dr. Joseph Lalor, a copy of whose first Report to the 31st March last is now before us. According to it, there had been admitted during the above-named period 136 patients, of whom 8 were discharged recovered, 4 died, and 124 remained in the institution. On looking over the Table of the "supposed causes of mental disease in the cases admitted" we find no fewer than five varieties of the "religious stamp"<sup>a</sup>.

- |                                   |           |           |
|-----------------------------------|-----------|-----------|
| 1. Overwrought religious feeling, | . . . . . | 1 male.   |
| 2. Religious zeal,                | . . . . . | 1 female. |
| 3. Excessive piety(!)             | . . . . . | 1 do.     |
| 4. Religious despondency,         | . . . . . | 1 do.     |
| 5. Religious scruples,            | . . . . . | 1 do.     |

On this subject the following observations of Dr. Ray on the "assigned causes" of insanity, in his excellently drawn-up paper, entitled, "Statistics of Insanity," which we have referred to in our notice of the American Journal, we think sensible and much to the purpose:—

"There is much reason to believe that many of the emotions and incidents that are set down as causes of insanity, such as "fear of poverty," "religious doubts," "anxiety," &c., would often be more justly regarded as its effects. They are the first symptoms that arrest the attention, and by means of that common disposition to confound the *post hoc* with the *propter hoc*, they are placed in relation of cause to the subsequent of aberrations."

Dr. Lalor's own remarks on this point are pretty similar:—"In some instances, at least, the supposed causes of insanity are rather effects than causes."

The Table detailing "the previous occupation" of the inmates, gives the largest number as "agricultural labourers,"

<sup>a</sup> "We demur to this peculiar species of insanity, preferring greatly the term *ir-religious* insanity."—*American Journal of Insanity*, vol. vii., No. 3.



who amount to 29,—27 males and 2 females. This would seem to be a corroboration of the opinion of Dr. Smith, of the Ohio Lunatic Asylum, who, being asked the question which class of society furnished the majority of lunatics—replied, “the farmers; they work too hard and have no holiday. Rest, here in the asylum, restores them almost always”<sup>a</sup>.

We congratulate Dr. Lalor on the care and ability with which his Report is drawn up, and on the amount of useful information he has condensed into so small a space. It affords a proof that the zeal and talents which he displayed while a practising physician, as evidenced by the several valuable communications from his pen which have from time to time appeared in our pages, are as anxiously devoted to the advancement of the special branch of medicine to which he has now attached himself.

15. The Annual Report of the Suffolk Lunatic Asylum, for the year 1852, is compiled in Dr. Kirkman’s usual able and sensible manner. His remarks on various important subjects connected with the years preceding are just what we would expect from a superintendent of his great experience and observation. We have only room for the following short extract touching treatment generally:—

“Reports which relate simply to matters of fact exclude the writer from the more enchanting ground of psychological research, and tie him down to matters of detail; and the details of facts are sufficient to make all of us materialists enough to allow that the brain is the organ through which the mind acts; and that, in the treatment of insanity, whatever the cause may be, the most comprehensive pharmacopœia can produce no remedy equal to the single article ‘rest.’”

The year’s results are thus given:—

	Males.	Females.	Total.
Under treatment during the year, . .	101	143	244
Discharged cured, . . . . .	22	28	50
Do. relieved, . . . . .	2	8	10
Died, . . . . .	17	10	27
Remaining 31st December, 1852, . .	111	144	255

16. From the Fifth Report of the Somerset County Asylum, for the year 1852, by Dr. Boyd, many useful hints may be

<sup>a</sup> American Journal of Insanity, vol. x. No. 1, p. 91.

gathered,—Dr. Boyd being evidently a practical man, and well up to the important and absorbing functions he, as its chief, has to perform.

The following remarks respecting “flooring” we think deserving of much attention. We do not recollect to have read or seen before the plan of *oiling* floors here recommended:—

“In all the single sleeping rooms, dormitories, and throughout the upper story, the floors are of wood. When oiled, before the wood has become stained by use, it looks well, and is easily kept clean, and seldom requires washing; two coats of oil will last for two years. When accidental spots occur they can be oiled again; it only requires to be occasionally washed with cold water, and no soap or soda should be used. A medical friend of great experience has written to me that he considers the system of *dry rubbing* floors is a very good one, and much less liable to prove injurious to health than the too frequent washing formerly in use in public institutions, and for which he believes dry rubbing is now generally substituted in military and naval hospitals. Much labour is saved in washing by these oiled floors, and the patients are less subject to the inconvenience and injury sometimes caused by damp floors, especially in winter, when they are slow in drying, and the patients are kept mostly in the house.”

Respecting the number of attendants Dr. Boyd states, that the average is one for every fifteen males, and one for every eighteen females. As to restraint, he states:—

“In four instances patients were found loosening and removing their bandages, to prevent which one wrist was fastened by a handkerchief to the side for some hours; and in three of these cases no further attempts were made.”

The tincture of sumbul in epilepsy appeared to mitigate the severity of the fits. The heads of those patients who are subject to fits at night are raised. Eight epileptics died during the year. In the post-mortem examinations of fatal cases of general paralysis the spinal cord was found diseased, as the result of inflammation, in which the ventricles and membranes, at the base of the brain, were generally implicated. Mr. Gulliver, the eminent surgeon, had subjected some portions of the morbid parts to microscopic examination, and found that the “exudation corpuscles” were most frequently present in the spinal cord, and were similar to those described by Dr. Bennett, in his paper on inflammation of the nervous centres. *Liquor hydrargyri bichloridi* was given with the view of checking inflammation. The number under treatment during the year was 468; of which 128 were new cases. The recoveries



amounted to 47,—24 males, and 23 females. 17 were discharged relieved, and 4 not improved. The deaths were more numerous than usual being 58,—35 males and 23 females; and nearly one-half occurred from among the new admissions; the average mortality was  $12\frac{1}{2}$  per cent. for the year. The statistical tables are very numerous, and the obituary very full and complete as usual. The total expenditure, during the year, amounted to £7084 12s. 4d. The expense incurred for *tobacco alone* was £57 0s. 11d.

17. Dr. Thurnam's Second Annual Report of the Wilts County Asylum, for the year 1852, shows, that the total number of patients under treatment was 282; the males being 128, and the females 154. Those discharged recovered were 35,—7 males and 28 females; 1, a male, was discharged relieved; and 2, a male and a female, unrelieved. The deaths were 25,—16 males and 9 females. The population during the year varied from 204 to 265, and the number left under treatment, at the close of the year, was 219,—103 males and 116 females. Some patients, above the class of paupers, had been admitted at a weekly charge of 14s.; but the practice had to be discontinued in consequence of the asylum being liable to the full amount of rates and taxes by receiving such. On the subject of diet, Dr. Thurnam, an excellent authority, makes the following pertinent observations:—

“There can be no doubt that much of the insanity which exists among the poor, particularly in agricultural districts, is to be traced principally to their scanty supply of the necessaries of life, and the low state of vitality thence resulting. In the case of many of the sick, it is found necessary to modify the ordinary diet, and allow such extras as a little wine, ale or porter, milk or eggs; which often prove the best restoratives.”

The standing dietary was increased during the year, meat dinners being given four days in the week, with an allowance of malt.

The total expenditure of this asylum during the year was £4449 18s. 2d.; and, as usual, tobacco and snuff make their appearance, to the amount of £26 18s. 3d., which we cannot but regret to see in so well and scientifically conducted an asylum as Dr. Thurnam's.

18. The Annual Report of the Royal Edinburgh Asylum, for the year 1852, drawn up by Dr. Skae, its able Physician-superintendent, contains a large amount of very interesting and

instructive matter, and a number of statistical tables, which display great care and much pains in their compilation. Indeed, the Tables given in the Reports of institutions generally for the treatment of the insane in these countries, are a strong and speaking evidence in themselves alone of the methodical and extremely accurate manner in which every point of detail is attended to and carried out in those admirably worked establishments, and redound highly to the credit and zeal of their respective resident physicians, whose duties are of so onerous and responsible a character. The patients treated during the year by Dr. Skae we find amounted to the large number of 763, of whom 247 were new admissions. They are thus accounted for, viz., discharged cured, 101; do. uncured, 55; and removed by death, 64; leaving in the asylum, at the close of the year, 543,—275 being males, and 268 females. Dr. Skae has some excellent and lengthened remarks respecting provision being made for incurables in workhouses, repudiating the idea of—

“Condemning a lunatic, capable of enjoyment, able and willing to work, but rendered incapable of taking care of himself by *disease*, to such a residence;” and very justly stating that thus acting “would be adding man’s punishment to God’s visitation, and would be repugnant to the common philanthropy of the age in which we live.”

Our own view on this important subject is the same now as we gave expression to on a former occasion, when something of a similar question was mooted by the authorities in Ireland, at least when it was proposed to erect establishments to draft all incurables to, in other words, condemning them to a wretched prison-house, supported at the lowest possible cost, so as to do little more than keep soul and body together. To act in such a manner as this towards such unfortunates would indeed be a daring and cruel act. We, however, quite agree with Dr. Skae in the propriety of harmless imbeciles, incapable of enjoyment, being placed apart from the merely chronic insane patients. We would like to see institutions set apart for the exclusive care of idiotic, epileptic, paralytic, and hopelessly demented and imbecile cases which are now retained in our ordinary hospitals for the insane, but from which they should be entirely removed to a distinct institution built and planned for themselves alone; and we hope that the day is not far distant when we shall see this desideratum fully accomplished.

19. The Crichton Royal Asylum, at Dumfries, continues to



uphold its deservedly eminent position among the British establishments for the insane under the energetic and painstaking superintendence of its highly informed chief physician, Dr. Browne, whose Report for 1852 is a *vade mecum* in itself in all that regards the care and management in theory and practice of the insane. To do anything like justice to the Report now before us, even in giving the most condensed analysis of its enlarged contents, would require several pages of our Journal; we must, therefore, be satisfied on the present occasion with a mere statement of the results of the year, and on this head we have to observe that 341 patients were in charge in 1852; that of this aggregate number 50 were discharged as recovered, 13 improved or during treatment, and that 25 died. Dysentery had the largest number of victims, 7 having sunk under it; apoplexy comes next, it being the cause of 5 deaths; 2 died of phthisis, 2 of general paralysis, 2 of bronchitis, 1 each of epilepsy, anthrax, erysipelas, hydrothorax, disease of liver, paralysis, and pleuropneumonia

The greatest variety is afforded to the inmates in the way of amusements. Social meetings, too, are regularly held, and a large and brilliantly lighted room is devoted to billiards, reading, conversation, or quiet recreation in the presence of an officer. There is also a theatre in which farces are acted by the inmates, who are liberally and admirably provided for in this institution.

20. The Tenth Annual Report of the State Lunatic Asylum of the State of New York, for the year ended 30th November, 1852, is from the pen of Dr. Benedict, whose valuable Reports we had under notice on a former occasion. The present one is a very satisfactory document, and arranged with much judgment and clearness. It states that, at the commencement of the year the number of—

	Males.	Females.	Total.
Patients in the house was . . . .	220	215	435
Received during the year, . . . .	200	190	390
Total under treatment, . . . . .	420	405	825
Discharged recovered, . . . . .	92	64	156
Do. much improved, . . . . .	7	4	11
Do. improved, . . . . .	21	21	42
Do. unimproved, . . . . .	63	89	152
Died, . . . . .	22	17	39

Dr. Benedict strongly counsels practitioners in ordinary

against the practice of taking blood from insane patients, some of the cases received having been greatly depleted before admission. Active insanity, he properly observes, is treated by psychological physicians on principles the very opposite of depletion; that not one ounce of blood had been drawn from the 825 patients under treatment during the year; and stimulation had been resorted to in many cases with great freedom and the best results. Amongst the probable causes of derangement in the 390 admissions of the year, the largest number, 46,—41 males, 5 females, is set down to “intemperance.” The next is masturbation, 40,—36 males, 4 females. Then “spiritual rappings and popular errors, 29,—14 males, 15 females. Dr. Benedict urges upon the state the necessity of “Criminal Lunatics being placed in a secure establishment apart from ordinary patients, and also a similar provision to be made for drunkards.” He is, moreover, of opinion that separate hospitals for the insane should be erected for male and female patients, which he states would be highly desirable.

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*Some Observations on Fish in Relation to Diet.* By JOHN DAVY, M. D., F. R. SS. Lond. and Edin., Inspector-General of Army Hospitals, &c. Reprinted from the Transactions of the Royal Society of Edinburgh, Vol. XX., Part IV. Edinburgh: Printed for the Society, by Neill and Co. 1853. Pamphlet, 4to, pp. 9.

DR. DAVY'S paper embraces the consideration of three distinct questions, viz.:—“First, what are the nutritive qualities of fish, compared with other kinds of animal food? Second, do different species of fish differ materially in degree in nutritive power? Third, has a fish diet any peculiar or special properties?” The author professes to attempt at present little more than an opening of the inquiry; but as the subject is important, and deserving of close investigation, we trust he may be induced to persevere in his researches.

In entering on the consideration of the first question, viz., the nutritive power of fish, Dr. Davy observes, that “the proposition probably will be admitted, that the nutritive power of all the ordinary articles of animal food, at least of those composed principally of muscular fibre, or of muscle and fat to whatever class belonging, is approximately denoted by their several specific gravities, and by the amount of solid matter which each contains, as determined by thorough drying, or the expulsion of the aqueous part, at a temperature such as that of



boiling water, not sufficiently high to effect any well-marked chemical change."

Now, this proposition does not, we think, go far enough. There is too much difference *in composition* between the fleshy parts of fish and land animals to admit of their relative nutritive powers being determined merely by ascertaining the quantity of solid matter which each contains. That it must be as necessary to discover the quality of these solid matters as their amount will at once appear, by comparing the following analyses by Schlossberger of the flesh of various animals, which we copy from the Sydenham Society's edition of Simon's Chemistry<sup>a</sup>.

	Ox.	Swine.	Carp.	Trout.
Water, . . . . .	77.50	78.3	80.1	80.5
Muscular fibre and vessels, . . . . .	17.50	16.8	12.0	11.1
Albumen and hemato-globulin, . . . . .	2.20	2.4	5.2	4.4
Alcohol-extract with salts, . . . . .	1.50	1.7	1.0	1.6
Water-extract with salts, . . . . .	1.30	0.8	1.7	0.2
Phosphate of lime with albumen, . . . . .	Traces.	Traces.	. .	2.2

In fact, to determine this question so far even as it can be done by chemical investigation, a series of accurate analyses, both proximate and ultimate, would be required. We are not aware that any complete ultimate analysis of the edible portions of fish is on record; if it be the case that none such exists, a field of interesting research lies open to the chemist. That the determination of the specific gravity and of the amount of solid residuum is not sufficient to decide the question is apparent from Dr. Davy's Tables, from which it will be seen that the oily fishes, the sea-trout, salmon, mackerel, and eel, all yield a larger amount of solid matter than beef and mutton; yet few, we think, will be found to dispute the superior nutrient powers of the latter articles of food; whether, as Dr. Cullen observes, they argue, *à priori*, "from the similarity of substance and economy in quadrupeds, to that of man;" or secondly and chiefly, from the results of personal experience. The mackerel, again, which affords a much larger residuum than the salmon, is specifically much lighter, in consequence, as Dr. Davy states, of the large amount of oil contained in it.

But it is to the author's remarks, in connexion with the third question proposed in the commencement of his paper,

<sup>a</sup> Vol. ii. pp. 423, 424.

that we chiefly wish to direct the attention of our readers, containing, as they do, a suggestion well worthy of the consideration of the practical physician.

Fish, and especially shell-fish, as is well known, has often been recommended as an article of diet well suited to phthisical patients, chiefly on account of its mildly nutritious and unstimulating properties; and some have even attributed to it directly curative powers, "oysters, it has been said, have performed cures of consumption"<sup>a</sup>, yet we are not aware that any one has anticipated Dr. Davy in a suggestion of its use based upon philosophical and scientific views. From the information he has been able to collect, he is disposed to think that fish, as a diet, is more conducive to health than the flesh either of birds or of such of the mammalia as are used for food, and that it especially tends to the prevention of scrofulous and tubercular diseases; to which diseases he believes fishermen and their families to be less subject than any other class without exception. In support of this opinion he quotes some very striking facts; but it must be borne in mind that other causes may combine to produce the exemption under consideration, such as the fact of the class alluded to living almost constantly in the open air, and perpetually inhaling a marine atmosphere.

Believing the exemption to be mainly owing to diet, the author was led to seek in "the composition of fish some element not common to other kinds of food, whether animal or vegetable." This element he believes to be iodine.

In every instance in which Dr. Davy sought for this substance in sea fish, he "found distinct traces of it; and also, though not so strongly marked, in the migratory fish; but not in fresh-water fish." His trials have hitherto been limited to the red gurnet, mackerel, haddock, common cod, whiting, sole, ling, herring, pilchard, salmon, sea-trout, smelt, and trout. In the instance of the fresh run salmon, sea-trout, and smelt, a slight trace of iodine was detected; in the spent salmon descending to the sea, only a just perceptible trace of it was observable; and not a trace of it either in the parr or the trout." In the common shrimp he detected it in an unmistakable manner; and also in the lobster, the crab, the common cockle, mussel, and oyster.

The author points out the analogy in this respect between sea-fish and cod-liver oil, which also contains iodine, and con-

<sup>a</sup> Medical Inquiries and Observations, by Benjamin Rush, M. D., vol. ii. p. 129. Philadelphia: 1793.



siders that the former may be beneficial as a diet in the cases in which the latter has been found so useful as a medicine: he alludes to the facility with which fish may be preserved, even without salt, by thorough drying. "I lay stress," he says, "on thorough drying, as that seems essential: for preservation, I believe even hygroscopic water should be excluded."

"The inference regarding the salutary effects of fish depending on the presence of iodine, in the prevention of tubercular disease, might be extended to some other diseases, especially to that formidable malady—goître, the mitigation or cure of which has, in so many instances, been effected by iodine; and which, so far as I am aware, is entirely unknown amongst the inhabitants of sea-ports and sea-coasts, who, from their situation, cannot fail to make more or less use of fish."

We have quoted sufficient to show the importance of Dr. Davy's paper. The decision of the questions discussed in it must, in their medical bearings, be left to the practical physician. Chemical science, which received so vast an impulse from the labours of his illustrious brother, is already indebted to Dr. Davy for many valuable contributions, and we trust that he is about to add to the number of her obligations to his family by fully investigating the chemical relations of the subject he has now taken in hand.

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*Lectures on Surgical Pathology, delivered at the Royal College of Surgeons of England.* By JAMES PAGET, F. R. S., lately Professor of Anatomy and Surgery to the College; Assistant-Surgeon and Lecturer on Physiology at St. Bartholomew's Hospital. London: Longmans, 1853. 2 vols. 8vo, pp. 499 and 637.

THE Museum of John Hunter has certainly been one of the most fortunate, as it is one of the most splendid, monuments of human industry and love of science. Founded originally by the stupendous activity of one man, and brought to a surprising degree of completeness in some departments, it illustrated, in the most striking manner, at once the inexhaustible riches of nature, and the power of the human mind to develop analytically the laws presiding over a large portion of creation. It differed, when first placed by Government under the care of the College of Surgeons, from almost all other public collections at the time. It was no chance-medley heap of curiosities; its catalogue was not a list of rare and singular objects, huddled together with-

out plan, and arresting attention only by their individual interest. Rich and rare specimens were indeed there; but every visitor of intelligence felt that the *whole* had a kind of value that belonged not to any *part*. It was an illustration of the laws of organization more profound, and yet more practical, than had ever yet been presented to the world: it was, at the same time, the mirror of a life devoted to the investigation of these laws; the seal and the monument of a mission self-imposed and nobly fulfilled, amid no small amount of self-sacrifice and discouragement. To the highly educated man of science it was the summary of an age of progress; to the student (and who is not a student in these matters?) it was, and we trust will long remain, still more valuable as an example of practical industry and honest labour bestowed in a cause where these qualifications rarely fail of success. There are few who have not felt the want of such "a spur to prick the sides of their intent;" and all who *have* so felt will view with more than merely scientific interest the labours of Hunter.

It was of no small importance to the public that the custodiers of this Museum should be men who would appreciate it in this double relation, and who, in extending and adapting the collection to the wants of a more modern epoch, by the admission of new contributions, would not lightly allow its individual character to be lost. It is impossible to speak too highly of the manner in which this delicate task has been accomplished by the College. Not only has the utmost liberality been exercised in pecuniary matters, but the whole of the patronage, which, in connexion with the Museum, devolved upon the Council, seems, so far as we can judge by the results, to have been exercised with singular discretion, and with a due regard to the public advantage. The Curatorship of this great work seems to have been regarded as a most sacred trust, and the "natural piety" towards its founder, which once effervesced in the somewhat extravagant expression, "that great saint of surgery," takes a more solid and satisfactory form in the excellent catalogues (as well of the original collection as of the additions which have taken place by purchase and private donations); and in the lectures which, under the auspices of the College, have been for some time past annually delivered in their hall on the subjects of comparative anatomy, histology, and surgical pathology.

It is with the last of these subjects that we have now to do: "surgical pathology" being the general term chosen by Mr. Paget to denote the collected materials of several courses of lectures delivered before the College in the successive summers



of 1847 to 1852, printed originally in the "Medical Gazette," and now reproduced in the two volumes before us, with large additions, and numerous wood-cut illustrations. The subject is a vast one, demanding for its adequate treatment the highest powers of generalization, as well as the most intimate knowledge of detail. Hypercriticism might take exception to the title, inasmuch as "pathology," in the sense in which the word is employed by Mr. Paget, is a science having to do nothing with either surgery or medicine, save to draw its illustrations from them, just as chemistry may be taught from a consideration chiefly of the metals or the earths, the organic or the inorganic bodies. "Surgical pathology" is a term as ungrateful to our logical sense as "metallic" or "earthy chemistry" would be; although we admit that it finds, in the habitual use of the terms, "organic," and "inorganic," as applied to the latter science, some justification. But not to dwell on matters of small importance, we may explain in a few words the object of Mr. Paget in these lectures, as indicated in the Preface. They were intended to expound, to a body of surgical practitioners, the general principles of pathology as applicable to their art, and as illustrated by the Museum of the College. "The Museum limited," says the author, "while it indicated the subjects of the lectures;" and even with this understanding it will be found that a further selection and limitation of subjects has been found necessary, the lectures being, in fact, confined to the discussion of the most general laws of *organic* or *structural disease*, apart from the consideration of chemical, mechanical, or merely functional changes, many of which would be most properly included under the term "surgical pathology," if such a term is to be recognised in science.

The reader will, therefore, bear in mind, that Mr. Paget's work by no means professes to be a complete system of pathology, even in its surgical relations. It is not a text-book, or a cyclopædia, but something infinitely more important to the cause of science:—the contribution of an original mind to the progress of inquiry, representing the *net result* of many years of profound research, careful study, large practical experience, and widely extended reading, in a department of science which very few have been found capable of treating in such a way as materially to advance the knowledge of its philosophical principles. Mr. Paget would, we are certain, be the last to claim for his work so ambitious a position as is implied in comparing it with John Hunter's "Treatise on the Blood, Inflammation, and Gunshot Wounds:" yet the comparison is one which rises at once to our mind as we contemplate the scope of the two

works, and to our view it is fully justified by a consideration of them in detail. We shall the more readily be excused for a parallel which may seem invidious (but to which we think it of real importance to direct attention), if we observe that the first volume of Mr. Paget's "*Lectures*" is devoted to an examination of the very same subjects as engaged Hunter's attention in Parts I. and II. of his *Treatise*; that the same illustrations come under review in both; and that much attention is everywhere devoted by the modern writer to Hunter's opinions, in the spirit not of destroying, but of fulfilling, according to the best lights of modern science. These circumstances lead us to the appreciation of Mr. Paget's scientific *point of view* as compared with that of his great predecessor; and as we cannot, with justice either to the author or to ourselves, attempt a full, critical analysis of a work at once so broad and so deep in its survey as the one before us, we propose to make some observations, desultory enough it may be, on the progress which its pages indicate in pathological inquiries, and on the general direction of those inquiries in the present day. We must state, at the outset, that, in our opinion, no work has issued from the press for many years, so well entitled to consideration as an index to the highest philosophy of the subjects with which it is occupied, or so comprehensive and exact in its appreciation of the results of modern science. The clearness and beauty of expression which distinguish it make the work sure of many readers; and from its carefully considered argument and judicial tone we feel satisfied, for the most part, to leave it in their hands, as a guide even on doubtful points, without any comment of ours.

In assuming, as the starting-point of his prelections, the pathology of the great functions of nutrition and growth, Mr. Paget has struck the key-note of modern physiological science, as applied to the study of disease. The morphological changes in the minute elements of the tissues—the importance of which it has been mainly the province of modern inquiry to discover—have (as might be expected) guided him throughout, not only in his descriptions, but in his fundamental ideas and doctrines. We are thus made to feel at every page, almost in every sentence, the debt which we owe to the progress of histological inquiry, and this in a manner far more satisfactory and convincing than is the case in many works professedly and ostentatiously devoted to the modernizing of our ideas: for, be it observed, as a proof of the good sense and thoroughly *English* spirit (we on this side of the channel may use the word without invidiousness) which pervades the work,



that, though it deals throughout with ideas, and even phrases, derived essentially from the most modern investigations, there are very few books on such subjects, from the time of Hunter downwards, where a man of ordinary professional information will find himself more at home. So skilfully are the old and the new interwoven,—so completely are they assimilated in the author's mind,—that not once in the perusal of the work have we been made to experience that painful and too familiar confusion of ideas to which we feel ourselves often condemned in the course of our critical investigations into literature of this class. The author has the somewhat rare merit of writing, with a single view to the information of his readers, in pure and intelligible language, and has not thought it necessary to ransack the Greek lexicon, or any other source of new and complicated vocables, for the purpose of superseding old favourites, or otherwise adding meretricious lustre to his discourse. It is with no ordinary feeling of satisfaction that we find, after so many formidable conspiracies to remove them from the vocabulary, our old acquaintances—*inflammation*, *lymph*, *adhesion*, *granulation*, *malignant disease*—put forward as the loadstones of our path; while the whole of the author's doctrine as regards these subjects appears to have been simplified, rather than rendered complex, by the vast mass of modern materials which he has had to include in it. Nor do we less feel indebted to Mr. Paget for relieving us in his pages from the company of those extremely *heterologous* and *caco-plastic epigeneses*, which, under the influence of a wordy *dyscrasia*, have been eliminated from the *blastema* of modern science by the misapplied energy of some of our contemporary writers.

To return to the subject of the minute anatomy of the textures, as the foundation whereon the modern pathology of structure is reared, the reader of John Hunter's work will observe, in comparing it with the one before us, a great difference in the fundamental ideas throughout. To Hunter the blood and blood-vessels were the source of all vital power, and the tissues, natural and morbid, were to a great extent the result of "vascular action." Increased determination of blood produced disease, because the vessels, which by their "active dilatation" contributed to this result, demonstrated their activity in another form, by the "effusion of coagulable lymph." The coagulation of the lymph was the result of its own inherent life, derived from the blood, which coagulates when drawn from a vein, as muscles contract after death, both processes being a last effort of vitality. Lymph, as being a part of the blood, participated in its life. The muscles, glands, and all the solid vascular tex-

tures, drew their life and functional activity from the same fountain; for to Hunter, as to the ancient Orientals, *the blood was the life*; and it took in his physiology almost the place of the mythical *Archaeus* of Paracelsus, or the somewhat more philosophical *anima* of Stahl, or the "vital principle" of Alison and other modern writers. This life or vital principle being bound up with the blood in the Hunterian pathology, the investigation of that fluid was of course the starting-point of all his inquiries. The proof that this substance, "unstable as water," carried hither and thither by external forces, changing in its composition from hour to hour, was as much alive as muscle or brain, was conclusively deduced from the circumstances attending coagulation, while the much stronger evidence derived from the examination of the red globules was by Hunter disregarded, inasmuch as he considered them a non-essential part of the blood, not to be found throughout the animal kingdom. In the same way he disregarded altogether the vital properties inherent in the minuter and extra-vascular elements of the solids; and for a long time after the Hunterian epoch it was considered impossible to ascribe any active vitality to a tissue not pervaded in every part by capillary blood-vessels, which were supposed in some mysterious way to carry about the seeds of life and organization, and deposit or withdraw them along with the nutritive fluid. Had it not been for the large powers ascribed to the vessels, John Hunter's would have been the most completely *humoral* system of pathology ever given to the world; as it was, its searching investigation into the functions of the blood and blood-vessels, even though one-sided, was necessary as a counterpoise to the prevailing philosophy, which, through the labours of Hoffmann, Whytt, and Cullen, had been too exclusively bent on showing the participation of the solids, through the nervous system, in all vital phenomena.

At the present day both fluids and solids have undergone a minuter investigation, and the result has been a conviction of the imperfection of all previous theories. We now see the necessity of not confining the sphere of vital activity within the narrow limits of fluid or solid, vascular or non-vascular tissue. With microscopic eyes we are enabled to trace the actual operations of nutrition and growth beyond the immediate range of either nervous or "vascular action." We are not under the necessity of denying to cartilage a participation in the morbid phenomena of other textures, because its elements are a little further removed from contact with the blood or with the absorbent vessels, than in the case of skin or mucous membrane. We do not now look for vessels as the proofs



of organization in the products of disease, nor are we surprised to find in the "red globules" of Hewson, so much despised by Hunter, a structure beautifully organized and wonderfully endowed, though in communication with the rest of the economy through the intervention of the fluids alone. These altered views, which are the result of the researches of many observers, are fully represented, so far as pathology is concerned, in Mr. Paget's work; and in the instructive chapters on nutrition and growth, as well as in all other parts of these volumes, the reader will find these modern researches represented, not indeed as opposing, but as flowing out of and completing the older hypotheses.

In the first two lectures which relate to nutrition in its pathological relations, Mr. Paget discusses very fully, and with great abundance of happy illustrations, the laws of healthy nutrition, and the mutual re-action of all the tissues of the economy upon one another, and especially on the blood; in which, however, in conformity with the principles of Hunter and the most accurate modern physiologists, Mr. Paget recognises, not merely a nutritive fluid, or a reservoir of the system, but a living mass, having the power, within certain limits, of preserving unchanged its own constitution by forces inherent in itself. This power of independent self-preservation Mr. Paget likewise claims for the tissues, considering them not as mere deposits from the blood, but as a series of living organisms, every portion of which is placed in accurate relation with some portion of the nutritive fluid, so that neither can the blood be maintained in health while the tissues are vitiated, nor can the tissues be properly nourished if the blood is not supplied to each separate point of the organism containing the material required for its support. The extremely striking results of this mutual adaptation of the blood and tissues is pointed out in some of the specific diseases, in which there is every reason to believe that some morbid material is superadded to the blood, and in which that material is sometimes found to give rise to disease of the tissues upon a precisely symmetrical plan, thereby showing that the exactly similarly affected, though distant, portions of skin or of bone must have resembled each other (not merely in position, but in some mysterious relation to the mass of the poisoned blood), more closely than the intervening unaffected parts. We have not space to do more than to refer to the beautiful laws shortly noticed by Treviranus, and developed at greater length in these Lectures, wherein it is shown that the glands and excretory organs are not the only parts of the system where the depuration of the blood is accomplished,

but that every organ and tissue must be considered, in virtue of the material which it withdraws from and returns to the general circulation, an agent in the general work of nutrition, inasmuch as it performs its part in the elaboration, depuration, and deterioration of the fluid by which all other parts are fed. The applications of this law are very strikingly illustrated by the dependence of the growth of the hair, or of other cuticular appendages in male animals, upon the development of the sexual organs and their functions; and a pathological illustration is found in those cases of hypertrophy which spring from atrophy of a symmetrical organ, and in which it is evident that the accumulation in the blood of the material destined for the atrophied organ becomes the source of increased vigour and size to the other.

We must pass over the observations on growth, together with most of those on hypertrophy and atrophy, merely remarking that under the latter term Mr. Paget includes all the fatty, calcareous, pigmentary, and other degenerations of tissue, —an extension of the signification of this term to which we should be disposed on technical grounds to object, as leading to confusion; although, in a strictly scientific point of view, there is something to be said for Mr. Paget's method.

The lectures on repair and reproduction of tissues are among the most original in the work, and are full of suggestive doctrines and novel statements of fact which demand to be carefully weighed, and are in general stated by the author in such a way as, where there is any doubt, to place both sides of the argument most impartially before the reader. The power of repair in the higher animals resembles that of reproduction in the lower, being most highly developed where the specific life and individual character of the part or individual is lowest. Thus fibrous tissue, epithelium, capillary vessels, have an almost endless power of reproduction, resembling in this respect the polyps and monads of the lowest tribes of animals; while skin, muscle, nerve, resemble the higher animals in being more complex, with more distinctive organization, and, therefore, less capable of reproductive repetition. An apparent exception to this law is the reproduction of bone; but Mr. Paget by no means admits this as a real exception, considering, as he does, bone as a tissue of low organization, although peculiar in being the seat of a process of calcification. We must say that the arguments on this point are scarcely satisfactory to us. We can scarcely conceive of bone as being of lower organization than the cartilage from which it is produced; yet how easy of reproduction the one, and how difficult the other!



The description of the reparative process, as it occurs in various tissues, is remarkably interesting. In regard to the mode of union of fractured bones it is to be observed, that Mr. Paget denies the occurrence in man (at least in ordinary circumstances), of what has been usually termed provisional callus. Even in animals (in which Dupuytren first described this mode of union), it is not constant, as favourable specimens are only to be obtained in young subjects, and not always even in them. In man Mr. Paget has never seen provisional callus formed, except in the ribs, and in one or two other bones where the process of union was violently disturbed. Usually the medium of union is thrown out only between the fractured surfaces, and it is occupied at once by a permanent ossification. Another very prevalent idea is disputed by Mr. Paget, viz., the generally cartilaginous nature of callus. He finds that the reparative material may in passing into bone assume various types of structure: the most usual in man being nucleated or fibrous tissue, and sometimes a kind of fibro-cartilage. A true cartilaginous callus is, however, met with in some animals, and may probably also be found in favourable specimens of fracture in young children.

The consideration of the healing process in injury leads by an easy transition to the Lectures on the simplest type of disease—inflammation, a word which Mr. Paget does not attempt rigidly to define, thinking that “the attempts at precise definitions that have been made hitherto seem to have led to confusion, or to false and narrow views of truth.” With this opinion, as also with the following sentences, we very fully concur:—

“But the very difficulty of exactly defining the process of inflammation may be our guide to the most hopeful method of investigating it. When we see such gradual transitions from the normal process of nutrition to the disease of inflammation that we cannot draw a definition between them, we may be sure that the main laws of physiology are the laws alike of disease and of the healthy process; that the same forces are engaged in both; and that, though interfered with by the conditions of the disease, they are not supplanted or annulled.”

In the observation of the phenomena of inflammation in the minute vessels Mr. Paget has employed the wing of the bat, which, as exemplifying the process as it occurs in a warm-blooded animal, has some advantages over the frog's web. The results are, however, very similar, except that the stagnation of the blood is neither so complete nor so lasting as in the rep-

tile. The *rationale* of the stagnation is considered by Mr. Paget to be still obscure, notwithstanding the multiplied investigations of recent observers. Nor does he pretend to determine the *proximate cause*, or essential pathology, of inflammation; contenting himself with a description of the mode in which the nutrition of the part and its physiological relations are observed to be altered after the process has begun. The description of the products of inflammation, though interesting and accurate, contains nothing to which we think particularly necessary to call the reader's attention, except the experiments upon the fibrinous and corpuscular elements found in the fluid from cantharides' blisters. In thirty cases in which the secretions of blisters were examined by Mr. Paget, he found that the differences in the products corresponded in some measure with the nature of the disease, so that he "could generally guess accurately, from an examination of the fluid in the blister, what was the general character of the disease with which the patient suffered." The distinctions observed are thus summed up:—

"The highest health is marked by an exudation containing the most perfect and unmixed fibrine; the lowest, by the formation of abundant corpuscles, and their nearest approach, even in their early state, to the characters of pus-cells."

In his description of the development and degenerations of inflammatory lymph, as in his appreciation of the phenomenon of ulceration, Mr. Paget places himself in harmony with the modern pathology, and thereby departs entirely from the point of view of John Hunter. The theory which ascribed ulceration to the absorbing action of the lymphatic vessels, and that which considered the products of inflammation, after coagulation, to be mere passive substances, moulded by the vascular tissues around them, find no favour in his eyes:—

"If it were required to point out what, since Hunter's time, has contributed most to the progress of general pathology, one could scarcely hesitate to name the full appreciation of the fact, that inflammatory lymph and other primary products of disease have an independent life, and are, of their own nature, capable of appropriate development, degeneration, and disease. We may regard this as one of the best achievements of the observations which Schleiden and Schwann began to generalize; for till it was clearly apprehended, the idea of a part being organizable meant scarcely more than that it admitted of being organized by the forces of the parts around it; that it could be built up by the arteries, and modelled by the absorbents as a material plastic, yet passive, in the hands of workmen. Hence was derived the erroneous direction of



inquiries, which sought from blood-vessels as the essential characters of organic life in a part; and for their varieties of size, and number, and arrangement, as the measures of the ability and method of development. Now, more truly, we may study the lymph as having a life only so dependent on the blood and vessels, as are all the tissues of the body dependent on them as conditions of life, but not as sole arbiters of the method or direction of vital transformation. And I venture to think, that the chief aim of our observations in this part of the pathology of inflammation should be to learn how the exact relation in which the several products of inflammation stand to certain primary forms, as developments or degenerations from them. The catalogue of the various corpuscles is already swollen to an extent that is confusing to those that are familiar with them, and repulsive to those who would begin to study them. It would be an easy task to increase it, and it might have a seeming of accuracy to do so; but what we want is such a history of the inflammatory lymph that we may arrange the components of this catalogue as indicating so many progressive stages of development, degeneration, or disease, in the primary products of inflammation. An attempt to construct such a history is the more advisable, for the sake of the illustration which it may afford to the history of normal structures. There are, as I have already said, no normal instances in which we can see the materials that are effused for the nutrition of parts; but we may assume something concerning them and their progressive changes from the analogy of the materials that are more abundantly produced in inflammation."

Almost every one, we think, who has engaged profoundly and intelligently in the investigations to which Mr. Paget here points will be disposed to concur with him as to the necessity of our applying ourselves to the discovery of laws rather than distinctions, and of cultivating real science rather than the pretentious technicalities to which truth and reality have too often been sacrificed in pathological histology. We have long been in the habit of anticipating a return to the simplicity of that nature which we have seen with our own eyes, but of which scarcely any of our modern books communicates the slightest idea; and we are happy to find in Mr. Paget one who is not to be distracted or dazzled by the false glare of microscopic refinements, and who is more anxious to be the teacher of a true system than the discoverer of a morphological novelty. We wish we could afford space for an analysis of the fifteenth, sixteenth, and seventeenth Lectures, which deal with the products of inflammation; but we could not possibly give more than a very inadequate idea of them, and must therefore commend them to the serious study of the reader who may be induced to turn to the original work.

The second and larger volume of Mr. Paget's treatise is devoted to the consideration of tumours, including cancerous and tubercular formations. In the classification and description of these we observe the same unaffected love for simplicity, and the same distrust of excessive refinement which we have noticed above. Nor is this the result of imperfect acquaintance with the objects he describes; for while arranging the Museums of the College of Surgeons and of St. Bartholomew's Hospital, as well as in his capacity of Assistant-Surgeon to the latter institution. Mr. Paget has had unequalled opportunities of studying almost every variety of morbid growth. The present volume is the result of these opportunities, and proves him to have brought to their improvement not only an amount of conscientious labour in observation which is truly surprising, but that sobriety and clearness of judgment which distinguish the able practitioner from the mere anatomist, and which have never yet, we believe, been brought to bear in so high a degree upon this difficult subject. It would be no compliment either to Mr. Paget or to ourselves were we to say that his conclusions harmonize in all points with our own; nor are we prepared even to assert that he has definitively adjusted any considerable number of the real difficulties connected with this subject; but we can most truly state, that we have never seen the evidence connected with these doubtful points stated in so clear, true, and exhaustive a manner; nor have we perused any work which may be so confidently and unreservedly recommended as being free at once from undue dogmatism and inconsiderate eclecticism. We feel ourselves throughout in the hands of a teacher who has left no stone unturned to discover truth; and with whom, at the same time, extensive reading and observation are less displayed than concealed in the large generalizations of which the author's doctrine consists. In suppressing the full details of his cases, while he gives us ample data as a foundation for his opinions, we cannot but think that the author has done well; although, in doing so, he has departed from the usual plan of such investigations, which, notwithstanding its unquestionable advantages in some instances, is apt, in many cases, to prove a most unnecessary incumbrance to the reader.

In the precise definition of a tumour, as in that of an inflammation, Mr. Paget is not, and does not profess to be, very successful or very novel. Neither does the distinction between malignant and innocent (as Mr. Paget somewhat curiously calls non-malignant) growths in general comprise any elements which would be new to our readers, although the whole



of this introduction to the subject is beautifully expressed, and replete with apt illustrations. In the classification of the simple tumours, the author adopts the plainest and most generally acknowledged principles; and here, too, he is content to resign novelty in favour of truth. Admitting the great difficulty of good classification, he yet maintains its importance to a successful study of tumours.

In dealing with the cysts, which he divides into barren and proliferous, Mr. Paget, following the observations of John, Simon, Rokitansky, and Mettenheimer, traces them down to their minutest forms as arising in expansions of the natural elements of the parts in which they occur. He describes the cysts in the kidney, placenta, ovary, and thyroid gland, as being the overgrowth of natural cell-forms; while some others are found by the dilatation of follicles, or the expansion of areolar spaces; and with this explanation we might, perhaps, be inclined to rest satisfied were it not that it leaves unsolved the chief difficulty, whence the cystic structures of disease derive their enormous power of growth, and in some instances of multiplication.

The fatty, fibro-cellular, and fibrous tumours, together with their varieties and composite forms, are discussed in Lectures IV. and V.; we pass over this portion of the work, however, as involving few controverted questions, and take notice only of the very remarkable facts mentioned at p. 151, *et seq.*, with respect to what Mr. Paget calls provisionally, "till their characters are more perfectly known," *malignant fibrous tumours*. The abridged history of the cases alluded to may be given as follows:—A woman, forty-seven years of age, had a tumour removed from the breast, which, by its external characters and mode of growth, had been, previous to excision, pronounced cancerous. After removal it presented, to Mr. Paget's most careful examination, no other character than that of a fibrous tumour, such as is seen in the uterus. It yielded gelatine in boiling, and contained no cells. The subsequent history of this case was in all respects that of cancer; return of similar tumours, both in the neighbourhood of the original site and in the lungs; and death after a second operation from an obstinate and extended cancerous-looking ulcer which ultimately was nearly a foot in diameter, and had walls like the finest kinds of medullary matter. The internal tumours were in this case entirely fibrous; there was, therefore, no evidence of a change in the type of the disease. The case is certainly one of a very rare and peculiar kind. Two similar histories, though scarcely so complete, are narrated; the one relates to a recur-

rent fibrous tumour of the scapula, which caused death after a second operation, similar growths being found in the lungs; the other to a tumour of the back, of fibrous character, which was excised nine months after an operation for a similar tumour in the same region. The event of this case is not stated.

Lecture VI. is devoted to recurring fibroid and fibro-nucleated tumours: two very peculiar forms of growth consisting, not, like the last, of well-developed fibres, but of fibre-cells, or of nuclei imbedded in a filamentous tissue. From their hypothetical nature (being supposed to contain the elements of nascent fibrous tissue), these tumours have been called by Lebert, *fibro-plastic*; they form, however, as we shall presently mention, only a portion of the group so called; the fibro-nucleated variety was first described by Dr. Hughes Bennett; and both kinds have been placed by these authors among the "cancroid" growths, from the fact of their not containing those cell-forms supposed to be essential to a truly cancerous structure. A very complete and careful statement of the facts bearing on these growths is given in this chapter, and we think Mr. Paget does wisely in refraining, in the meantime, from technical controversy, and adjudging them a place among the suspicious but not certainly malignant tumours. They are distinguished by their structure, as above indicated; by an extreme proneness to return at the original site; sometimes by a tendency to ulcerate; but on the other hand by the absence of a cachexia and general infection of the system, or of the lymphatics; and occasionally by the cessation of the tendency to recurrence, and complete recovery.

More or less akin to these growths are the "myeloid tumours" of Mr. Paget, which include a large proportion of the fibro-plastic growths of Lebert, especially those arising from bones, and known to surgeons as forming many cases of *epulis*. These are distinguished microscopically, not only by the presence of fibre-cells, as above described, but by "large, round, oval or flask-shaped, or irregular cells and cell-like masses, or thin discs, measuring from  $\frac{1}{300}$ th to  $\frac{1}{1000}$ th of an inch in diameter and containing from two to ten or more oval, clear, and nucleolated nuclei;" and the affinity of these last constituents to certain cells found in the marrow and diploe of bones has suggested to Mr. Paget the distinctive term above mentioned. M. Lebert, trusting to the absence of the so-called specific cancer-element, places these tumours unhesitatingly among the "cancroids" or pseudo-cancers, notwithstanding their formidable character, their tendency in some cases to ulceration, their frequent local, and occasional general recurrence. Mr. Paget, on



the other hand, although inclining to believe the myeloid tumours in their most characteristic form non-malignant, hesitates to commit himself to an exclusive statement on this point. Indeed, it would be difficult, in the presence of some of the facts narrated by him, to exempt them from the strong suspicion of malignancy.

We cannot afford space to dwell on the remaining classes of the non-malignant, or not decidedly malignant growths. On each of these—the cartilaginous, the osseous, the glandular, and the vascular tumours—the reader will find many facts of interest in the work before us; and in all cases the summary of conclusions is, beyond all that we have seen before, comprehensive and exact. The difficulties in the way of dogmatic statement are often, indeed, too great to be satisfactorily overcome; and in these cases it is very creditable to the author that he is content to state calmly and correctly both sides of the case, and then to leave it, without any affectation of superior penetration, in the hands of the reader. We are very far from thinking that Mr. Paget's authority as a writer will be at all weakened by these candid confessions of his own difficulties; we are sure it will not be so with those who are in any degree practically acquainted with the subject.

The malignant tumours, or cancers, are divided by Mr. Paget into the following varieties:—the scirrhus, medullary, epithelial, colloid, osteoid, melanotic, villous, and hematoid. In making this classification the author has, for the most part, employed terms familiar to the best-informed modern pathological students, and he has evidently been solicitous to avoid any appearance of unnecessary innovation. Some of the terms may appear unfamiliar to the ears of practical surgeons, or to those who have not recently revised their pathological information; but they have arisen out of the necessity of considering these growths from a new point of view—that which arises from the combination of microscopic data with those furnished by the unaided senses. The scirrhus, medullary, colloid, and melanotic varieties must be sufficiently well known—at least in general terms—to all; the hematoid includes many of the cases formerly called fungus hematodes by Mr. Wardrop; the epithelial, osteoid, and villous cancers may, perhaps, to some of our readers, require explanation.

*Epithelial cancer* is a disease long known to the surgeon in the form of the so-called pseudo-cancer of the lower lip, of the chimney-sweep's cancer of the scrotum, and of various kinds of suspicious or decidedly malignant growths from the skin, prepuce, labia, neck of the uterus, tongue, or œsophagus. Its

spreading character and tendency to local recurrence had long, by common consent, placed it among the suspicious growths; while the comparative frequency with which the excision was followed by a perfect cure seemed to remove it from the category of the decidedly malignant tumours. The difficulty experienced of deciding, *à priori*, in individual cases, as to the chances of return, led to a very natural suspicion that several varieties of disease might have been confounded under a common name, owing to the imperfect appreciation of structure by the unaided eye, and sanguine hopes were entertained by many that the microscope would prove successful in resolving these superficial growths into a malignant and a non-malignant class. These hopes seemed to be fulfilled in the works of M. Lebert, who first clearly described the microscopic structure of the epithelial growths, and who, according to his theoretical ideas of the essential anatomy of cancer, affirmed the non-malignant nature of the greater part of them. Without entering into the details of these distinctions—which would be unintelligible without some kind of pictorial illustrations—we may state in general terms, that the usual epithelial growth of the lip and scrotum may be regarded as the type of the “cancroid” of Lebert, and that his system of classification had a tendency to detach it from the group of the cancers, and place it in near relationship to the condylomata and warts. Facts which have accumulated in considerable numbers, and in the experience of various observers, since the first publication of M. Lebert’s researches, have clearly shown, however, that, unfortunately for humanity, these inferences from the structure of epithelial growths cannot be sustained as a guide in practice; and it is now, we think, beyond all question, that the boundary wall placed by M. Lebert and his followers around the dark realm of malignant disease has been made, in this and other cases, to exclude structures whose affinity with the true cancers, both structural and physiological, can no longer be denied. The admirable statement of the facts bearing on this subject, in Lecture XII. of Mr. Paget’s second volume, substantially agrees with all that we have been able to observe, as well as with what has been long known to practical surgeons; and we have little hesitation in commending to the attention of our readers the careful and elaborate chapter to which we refer, as a complete view (according to the present state of science) of the pathological relations of these very interesting tumours.

The *osteoid* and the *villous cancers* (the first described by Johannes Müller, the second by Rokitansky) are among the



rarer types of malignant disease. The former is hard, partially bony in structure, and resembles the ordinary cancers only in its disregard of the individualities of tissue, in its multiple production, and occasional combination with hard or soft cancer of the usual types. The villous cancer is a fungous growth, most frequent in the urinary bladder, the general pathological relations of which appear to approach the epithelial cancers, but of which the number of examples completely described is as yet scarcely sufficient for the full understanding of its nature.

The descriptions given by Mr. Paget of all the different varieties of cancerous growth are followed by an account of its general history; its relations to sex, age, &c.; its frequency; and other circumstances of pathological and practical interest, founded on an analysis of the whole of the very numerous cases which he has himself recorded. The value of this part of the work can scarcely be overrated as a foundation for subsequent inquiries; but its necessarily complicated character precludes us from entering upon its consideration.

In discussing the general questions connected with the pathology of cancer, the same clearness and impartiality of judgment, to which we have already referred, is eminently displayed. We wish we could quote at length his conclusions in relation to the characteristics of the cancerous structure, but we can only find room for a few sentences in which he disposes of the so-called heteromorphism of cancers. So quietly are his views stated on this point, that the reader will scarcely suspect that they are directly opposed in their results to some of the most ambitious speculations of the present day. It should be remembered, that though the supposed specific distinctions of cancerous structures have never been admitted, as a general rule, to be of the absolute kind sometimes asserted, they have formed the object of much controversy, and have misled the unwary and the enthusiastic to such an extent as to have brought microscopic inquiries into discredit with many very able and well-informed practical men.

“ Various as are these corpuscles of cancers, it is yet to be observed, that there is none so entirely different from those of normal structures that we cannot point out among them its type or parallel. No observation since Müller’s time has invalidated his demonstration of this principle. The experienced microscopist will, indeed, very rarely fail in the diagnosis of a cancer by its minute structures; but he only discriminates them as specific modifications of the nucleus, nucleated cell, endogenous cells, and other forms, *of which the types are in natural parts: he finds among them*

*no new type-forms.* In like manner, the elemental cancer-structures show *no method of growth or development which is without parallel in natural structures*; they are formed and increased according to the same general laws as are observed in the normal rudimental structures. Their peculiarities in this regard are chiefly in the seeming disorder that often prevails among them in the absence of an apparent singleness of design."

The question of homology and heterology in cancer is to a certain extent capable, like the shield in the story, of being differently viewed according to the position and antecedent prejudice of the disputants; but there can be little doubt that the tendency of microscopic investigation, on the whole, has been rather to break down than to raise up barriers between the malignant and non-malignant tumours. To see the truth of this position, it is only necessary to compare the doctrines of Paget, Virchow, and others, who represent the latest phase of the inquiry, with those of Lebert, who, a few years ago, promised a sure diagnostic aid to the surgeon in the "specific cancer-cell," and found not a few enthusiastic followers. Indeed, any one who consults the last work of Lebert will be satisfied that he is himself engaged in explaining away his own refinements, although, perhaps, still unconscious that in doing so he has, like Prospero, broken the magic staff, and drowned the book that appeared to herald a new era in practical surgery; and there is little doubt that the observations which he has given to science will continue to be valuable, and to bear testimony to the general excellence and accuracy of his labours, long after the theory which originally bound them together has been consigned to the limbo of scientific vanities. Again, who is there that does not remember the mysterious significance supposed to belong to "caudate corpuscles," on the suppositious authority of some passages in Müller's admirable essays on the characteristics of tumours? If these speculations have been disowned by modern inquirers, it is not the less true that science has reaped a large and legitimate harvest of important principles, and instructive observations, from the attempt to solve the difficulties of the surgeon; and now that a more reasonable view has been taken of her aims, and that there is less disposition to look upon every new discovery in morphology, singly, as the talismanic key to Nature's cypher-writing, the observations of Müller, Gluge, Lebert, Sedillot, Bruch, Henle, Virchow, Bennett, and a host of others, will be turned to their best account. In works like that before us, the flip-pant scepticism too common among surgeons, and the whimsical mixture of dogmatism and uncertainty which generally



distinguishes the Laputan philosophers that can only see correctly through 800 diameters linear microscopic power, stand alike reproved and corrected. Every one who has observed the mode in which practical surgeons have encountered the new circle of ideas opened by microscopic inquiry must have often seen the great interests of science and truth sacrificed to the desire of a petty personal triumph. No doubt both parties have been to blame for this; and the microscope, as an instrument of scientific inquiry, has suffered as much from the eager haste of some to be wise by it alone, as by the culpable indifference of others to the results attained by it. The day has happily gone past, however, when its usefulness can be brought into controversy; and we trust that we may now await the result of further discussions on disputed points of pathological science without feeling that the world is divided into two great parties, each of which, with very imperfect ideas of the questions at issue, is trying to force its own hasty intuitions upon the other, and thus to narrow, instead of widening, the basis of our knowledge. Mr. Paget's work proves that he has had the hearty co-operation and confidence of his colleagues at St. Bartholomew's Hospital, and of many other surgeons in and out of London, in his most successful enterprise; and we cannot but believe that men of like mind with him will everywhere have it in their power to overrule the small prejudices and petty polemical spirit to which we have alluded, and thus to advance that fusion of modern investigations with the results of past experience, which is essential to all sure progress.

It only remains for us to notice the concluding Lecture, which, though dealing more in medical than in surgical illustrations, is to our mind one of the best in the volume. In describing *tubercle*, and following out the general pathology of its changes, Mr. Paget gives a very condensed but extremely complete account of his own experience in regard to the structural peculiarities of pulmonary tubercle, and of its changes in the direction of *withering*, *calcification*, and *softening*. He adopts, to a considerable extent, the views of recent observers, which tend to show that the elements of tubercle are a degeneration of the normal tissue—elements, rather than a new formation. The “specific tubercle corpuscles” he regards as shrivelled nuclei and imperfect cells, the most abundant and distinct, but not the exclusive or essential elements of a tubercular formation. In the lungs he refers them, like Virchow and Schroeder van der Kolk, to changes in the epithelial cells of the air-vesicles; and though we do not entirely coincide in this

opinion, at least without stating it in a different and, as we think, more comprehensive manner, we are unwilling, in the limited space that remains for us, to do more than hold out this as a point deserving of reconsideration. The disputed question of the relation of tubercle to scrofula is discussed in an admirable spirit, the author admitting the vagueness of the term *scrofula* as at present used; but being content apparently to leave it in the hands of those who require it, instead of abolishing it at once, like Henle, or cooping it up within the limits of an arbitrary definition, as many of the French pathologists have done:—

“It has been proposed, but I doubt whether it be practicable, to make ‘scrofulous’ and ‘tuberculous’ commensurate terms. As at present generally employed, the former has a much larger import than the latter. The relation between the two is, that the ‘scrofulous’ constitution implies a peculiar liability to the tuberculous disease, and that they often co-exist. Their differences are evident, in that many instances of scrofula (in the ordinary meaning of the word) exist with intense and long-continued disease, but without tuberculous deposit; that as many instances of tuberculous disease may be found without any of the non-tuberculous affections of scrofula; that, as Mr. Simon has proved, while the diseases of ‘defective power’ may be experimentally produced in animals by insufficient nutriment and other debilitating influences, the tuberculous diseases are hardly artificially producible; that nearly all other diseases may co-exist with the scrofulous, but some are nearly incompatible with the tuberculous.

“Now whether we disuse, or still use in its vagueness, the term scrofula, we may make a group of the ‘tuberculous’ diseases, defined by the peculiar morbid product, of which I have described the chief characters. Only at present we must be content, I believe, to be sometimes in doubt whether the substance found in lymphatic glands, and commonly known as scrofulous matter, be truly tuberculous matter or degenerate lymph or pus.”

We conclude with the above extract our notice of a work which has afforded us a satisfaction much more complete than usually falls to the lot of the critic, and which will long be looked upon as a classic in English medical literature, whether we regard its matter or its style. If we have adverted to but few points where our own opinion differs from that of the author, it is because he has invariably left those points to a certain degree open to discussion, after laying an impartial statement of facts and arguments before the reader; and perhaps it forms the best concluding commentary we can make on the spirit that pervades these volumes, to say that although our own



studies in these matters have embraced nearly all the more important subjects referred to, and have been in no degree guided by those of Mr. Paget, we have not once thought ourselves obliged to remark on a statement as being undoubtedly incorrect, or on a theory as being much too dogmatically expressed. The book, therefore, is, in our opinion, eminently safe, as well as eminently instructive.

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*Introduction à l'Étude Médicale et Philosophique de la Surdité-Mutité.* Par M.-E. HUBERT-VALLEROUX, D. M. Paris: Victor Masson. 1853. 8vo, pp. 126.

THE Academy of Medicine of Paris has been very lately engaged in considering a most important question to every lover of humanity,—the curability of the deaf-mute. Several sittings of that learned body have been devoted to an inquiry into the nature and causes of this singular infliction and its remediability; and numerous works have within the past half-year been published on the subject. Many possess both much interest and merit, but from among them we select that of M. Hubert-Valleroux, which, clear and concise, will enable us to lay before our readers a brief outline of the sum of our knowledge on deaf-muteism, viewed as a malady within reach of the medical art.

A follower of M. Itard, to whom so much is due for his investigations into the true nature, causes, and treatment of deafness, the author, adopting as his motto an extract from the writings of that eminent man, “Placé ou, pour mieux dire, ignoré entre les confins de la philosophie et de la médecine, le sourd-muet n’a jamais été bien étudié ni par l’une ni par l’autre,” proposes to undertake a similar inquiry into deaf-muteism. He had at first intended to have delayed publishing until he had completed two large volumes on the subject, in preparing which he has been for a considerable time engaged; but, yielding to the advice of some medical friends, the present *résumé* of the results of his labours is now issued to the profession. This essay is divided into eight chapters, the first three of which may be considered as introductory, yet containing matter of much interest on the distribution of deaf-mutes as regards the population of the world, the importance of their treatment, the nature of diseases of the organ of hearing, and the causes of deaf-muteism.

The number of persons afflicted with this woful infirmity is much greater than is ordinarily supposed, amounting to not

less than 30,000 in France, and being calculated by the most recent statistical inquiries at 300,000 in Europe, "sufficient," as M. Hubert-Valleroux observes, "to people three first-class cities." They are, however, very unequally distributed over the face of the globe, and present a singular alternation with the blind. Where cases of blindness predominate among the people of different countries deaf-muteism is rare; and, on the other hand, where the latter is in excess, blindness is less frequent than usual. "As we approach the equator," says the author, "blindness predominates; for example, in India, in Egypt, and in Ethiopia; it is also in excess in the Arctic regions, amongst the Laplanders, the Tartars, and the Esquimaux. But deafness is of more frequent occurrence in temperate climates, and especially in mountainous regions, as in Switzerland; there we find a single canton, that of Berne, for example, in which one deaf-mute occurs amongst every 250 inhabitants; the district of Schwarzenburgh, 1 in every 103 individuals; and the Commune of Weyach, 1 in every 44! In this same Switzerland, within an area of a few hundred miles, we are presented with a remarkable example of the contrast just indicated. The northern part of the basin of the Aar, which is low and moist, and the western part, which is connected with the Alpine formation, both contain a vast number of deaf-mutes and but few blind; while the southern portion, opposite to Jura, which presents an exactly reverse climatic condition, abounds in persons afflicted with blindness, while the deaf-mute is of rare occurrence." This is a most singular dispensation of Providence, which, as far as we are aware, has been here for the first time fully noticed, and in proof of the truth of which the author gives several other examples. Its occurrence may, we think, be explained on true physiological principles: the great preponderance of light, whether directly from the rays of the sun in the torrid zone, or reflected from the snows of the northern climates, is a powerful cause of blindness; while the absence of light, together with dampness and moisture in excess, predisposing to insufficient development of the body generally, may be regarded indirectly amongst the causes of deaf-muteism. A certain geological formation of a district preventing a permeation of the surface water, and thereby keeping the soil in a continued state of dampness, as pointed out by Schneider, Amstein, Studer, and Schmalz, must for the same reason be taken into account in estimating the causes of the distribution of this infirmity amongst the peoples of the world. Moral influences, also, have a decided effect, as is well exemplified by the black population of the



United States of America, amongst whom deaf-muteism is excessive, amounting in some places to 2 per cent.

The more immediate causes of deaf-muteism, according to the author, are—hereditary tendency, which he places in the first rank; near relationship of the parents, which we regard with him as a well established fact; and passion, powerful excitement, or excessive fright of the mother while pregnant. Deafness resulting from disease in early infancy is manifestly the most direct cause, but in this case the affliction cannot of course be regarded as congenital.

In the fourth chapter the author describes the characters of deaf-muteism. Equally varied as the causes by which it is produced are the organic lesions on which it depends, and no matter how much education may improve and correct the manifest symptoms, it rarely and with great difficulty effaces them altogether. "The deaf-mute seldom holds himself erect; his attitude, naturally stooped and awkward, demands close attention and lengthened time to be brought even to the ordinary carriage of children of his age. Inquisitive, inclined to talk, with no other means of expression than gestures, he is continuously mimicking everything, and grimacing, his features, little intelligent though they are, being in a constant state of singular mobility. Impetuous, and of extraordinary vivacity, the movements of most deaf-mutes are nevertheless gentle and curiously graceful. Our celebrated tragic actress, Rachel, witnessed with admiration the depth of power and charm of gesticulation in many of the pupils of the school at Nancy, especially in Miss Ackerman, whose education does great honour to M. Piroux." The truthfulness of the foregoing description of M. Hubert-Valleroux will be recognised by all who have paid the least attention to persons thus afflicted, and in the same eloquent strain, from which we regret not being able to afford room for lengthened extracts he paints the features which characterize the deaf-mute.

The existence of deaf-muteism from birth, according to the author, is, contrary to the popular belief, the exception, and not the rule. Itard reports, that of 51 pupils in the institution at Leipsic but 22 were born so; at Prague there were only 19 congenital cases out of 54; and nearly similar results were obtained at Cologne and Hamburgh, on the Continent, and in Hartford and Philadelphia in the United States. But here it must be remembered how very difficult it is to come to a correct conclusion as to whether an infant under a year old is deaf or hears, and also that parents are naturally very unwilling

to acknowledge that their children are born deaf-mutes; nevertheless, many cases can be distinctly traced to attacks of the eruptive fevers, head affections, &c.

In his fifth chapter the author commences to speak of the curability of deaf-muteism. He first glances at the fact of the affection being made the prey of quacks who confidently promise a cure in all cases, especially noticing the claims of mesmerism in the last century, and animal magnetism in the present day, as affording a certain means of restoring both hearing and the power of speech, yet always resulting in disappointment of the hopes of those submitting their friends and relations to the operations of either; and then refers to medical men who, adopting the opposite view, affirm the total incurability of deaf-muteism. Taking a mean between both, M. Valleroux affirms that sufficient unquestionable evidence exists to prove, that in some cases nature either alone, or aided by art, has effected a cure in the case of the deaf and dumb, and, therefore, that its curability is beyond doubt. In proof of this assertion he narrates some cases from the writings of others, in some of which perfect recovery took place spontaneously, and in some from medical treatment.

“The deaf-mute, who offers the most favourable hopes for treatment, is the one in whom *accidental* deafness has occurred at the age in which children begin to hear and to speak, and who still retains some power of hearing and of speaking. If the organic lesion, the primary cause of the infirmity, has its seat *without* the nervous centres; if the child endowed with intelligence has neither brothers nor sisters similarly affected; if his parents were healthy,—not blood relations; and if he has not been before submitted to treatment; the chances of cures are favourable, almost certain if all the above circumstances characterize the case; on the contrary, if one or more of them are absent, the chances become proportionately unfavourable; and when none of them exist, the prospects of cure are but trifling. We may, however, expect to ameliorate certain cases of deafness which are congenital, or which have resulted from the eruptive or catarrhal fevers during the earlier months of life: of this I have seen more than one example. But we cannot hope to cure or even improve the condition of those in whom the malady has followed upon fevers or cerebral lesions.”

We should not, however, concludes the author, be too positive in our prognosis as regards incurability in any case, for the *vix medicatrix naturæ* is in some instances wonderful. In illustration of this he narrates the case of a boy nine years old, who had never spoken, and who could scarcely hear the sound



of a cannon, and whose only sister was a demi-mute; moreover, both had been previously treated unsuccessfully by a celebrated practitioner. After thirty sittings—the boy was still under treatment when M. Valleroux wrote—he could not only hear the vowels, but, the voice being modulated, reply to a number of questions without seeing the speaker. The Eustachian tubes were in this case closed, and the sensorial apparatus in a state of complete torpor. The medical treatment consisted in catheterism of the Eustachian tubes, and the insufflation of stimulant vapours into the cavity of the tympanum.

M. Valleroux well remarks on the empiricism which exists generally among medical practitioners in the treatment of deafness and other diseases of the ears; they hesitate not to use the most severe and painful remedies in these affections, the true nature of which they are ignorant of, while in maladies of other organs with which they are well acquainted they would fear to have recourse to such heroic measures. Partial resection of hypertrophied tonsils is the most painful operation he has ever practised, and this even but very rarely; catheterism of the Eustachian tubes he uses freely, and he has also much faith in injections of medicated vapours into the cavity of the tympanum. The vapours he employs are those of the gum-resins and essential oils, very rarely either ether or ammonia. He also applies to the throat solutions of nitrate of silver and of tannin,—the latter in a saturated state he has found very beneficial when applied daily. As an external counter-irritant he uses a mixture of three parts of almond oil and one part of croton oil, rubbed over the skin, near the angle of the lower jaw, so as to produce a redness which would last for from two to five days. In all cases especial care must be taken to make a correct diagnosis as to the cause of the deafness before these remedies are used. According to the circumstances of individual cases, M. Valleroux administers emetics—which were highly thought of by Itard—purgatives, alteratives, tonics, &c.

“It should never be forgotten that in the treatment of deaf-muteism, more, perhaps, than in any other infirmity, the first condition of success consists in affording the patients such care and hygienic precautions as experience has proved the necessity of. If the deaf-mute is left in the unfavourable condition in which he has contracted his malady, or if the scrofulous, syphilitic, or other constitutional derangement, under the influence of which his infirmity has been developed and persists, be not attended to, all efforts of cure will prove miserable failures.”

The seventh chapter opens with the following theorem:—  
“To restore hearing to a deaf-mute will not suffice to give him

the power of speech." It is, therefore, necessary to provide institutions presided over by persons who have made the teaching of language to such individuals a special object of study in order to complete the cure but partially effected by medical treatment in the restoration of hearing. M. Valleroux here notices shortly the errors of Itard and others who have written on this subject, but refrains from an exposition of the views which, in conjunction with M. Valade Gabel—who has specially devoted himself to the educational cure, if we may so term it, of deaf-muteism—he has arrived at and successfully put in practice, until the publication of the large work on which, as we have already stated, he is at present engaged, and to which the present essay is prefatory.

In the eighth and last chapter are contained some "philosophical considerations on language," chiefly with reference to the complete curability of the deaf and dumb.

*The Pathology of the Bronchio-Pulmonary Mucous Membrane.*

By C. BLACK, M. D., &c., Chesterfield. Edinburgh: Sutherland and Knox. 1853. 8vo, pp. 99.

To trace the advance of medical science, and detail those various steps by which it has attained to its present altitude, would involve an analysis of the various means employed for the guidance of the judgment, and the formation of just opinions. To those curious in such matters, no subject could be more interesting than the improvement which has of late years been perfected in the diagnosis of thoracic diseases. The history of their progress is a lesson in medical philosophy which establishes beyond doubt, that for the practical purpose of cure, or the scarce less important duty of opinion, the careful observation of manifest effects in a great measure supplies the deficiency which our imperfect acquaintance with less evident exciting causes, or coexisting conditions, of necessity entails.

The study of the vital pathology of thoracic diseases has since the days of Laennec been each day progressing. As Irishmen we feel no small pride that many of the most important additions to the medical literature of this class of affections have emanated from those either occupying prominent positions in the Dublin Medical School, or who, within the wards of our metropolitan hospitals, had laid the foundation of European reputation.

The appearance of Dr. Black's work on the Pathology of the



Bronchio-Pulmonary Mucous Membrane we greet with every feeling of satisfaction, since it promises to supply the only deficiency that at present we are conscious of in the diagnosis of the most important, because the most-widely-extended class of diseases, on the just estimation of which so much of the honour of medicine depends.

The affections of those more obscure organs, whose physical examinations are less within our reach, have already had much of their doubt and uncertainty dispelled by the practical application of those collateral sciences whose aid Dr. Black has the merit of having, in a less difficult class of affections, rendered subsidiary to the means we already exercise for the purposes of their recognition. That which histologists have accomplished for the diagnosis of renal and hepatic affections Dr. Black essays in his present publication. Investigations of such a character as those which he has instituted being, we conceive, all that is required to invest the diagnosis of diseases of the pulmonary structures with as much of certainty as the physician can hope to obtain.

Premising that a correct knowledge of diseased structure, and of diseased action, predicates a perfect acquaintance with healthy structure and with healthy action, Dr. Black enters fully into the description of the normal condition of the bronchio-pulmonary membrane, in which his opinions are somewhat different from those to which other authors have already given expression. Dr. Black writes:—

“In contradiction to the statement, that the epithelium is not continued into the ultimate cells of the lungs, it may be observed, that if a very thin slice of pulmonary tissue be taken from the surface of the lung, macerated for a short time in distilled water to decolorize it, and be afterwards subjected, between two slips of glass, to the microscope, each pulmonary cell is seen to have a perfect lining of epithelium.”

That this continuity of structure which Dr. Black demonstrates might, in the absence of such direct proofs, have been inferred from the due appreciation of disease as evidenced by auscultation, we believe experience establishes. Dr. Stokes, in his master work, speaking of pneumonia, observes (p. 309): “When we find that this parenchyma is made up almost altogether of air-cells and minute bronchial tubes, and when we examine a lung which has passed into the more advanced stages of pneumonia, and observe the filling up and distention of the cells, and the exudation into and obliteration of the minute

tubes, we must admit that he who would call pneumonia a bronchitis of the terminal tubes, would be hardly guilty of a misnomer."

The pulmonary epithelium has its double use for the purposes of the economy. The protection of the basement membrane by the formation of a continuous layer, and the secretion or elimination of a special fluid for its lubrication, while a further and most important office, Dr. Black believes, it is also adequate to fill, since, in certain morbid conditions of the system the epithelial cells act the part of true excretory organs when, through them, morbid elements are eliminated from the blood. An analogy is thus established between the secreting surfaces of the pulmonic and those other viscera, which, in specific diseases, are believed to be accessory to certain chemico-pathological changes,—the difference between the eliminative action of the two epithelia being, that in the class of diseases of which Dr. Black treats, the evidences are physical, tangible, and chemically determinable, while the morbid products in the other are assumed, and as yet elude our most delicate means of research.

The microscopical analysis of the primary or basement membrane, as also of the fibrous tissue of the bronchio-pulmonary membrane, is fully set forward, leading to the inference that the presence of epithelial scales in the secretion of the latter is partly owing to the abortion of the epithelial nuclei, partly to the detachment of the growing nuclei from their nutritive matrix,—since the process of cell-growth being capable of interruption by the operation of accidental causes, all the nuclei of the basement membrane do not attain perfect cell-development, and thus patches of its superficial layer appear in almost every specimen of the fluid examined.

Having entered into the minutiae of organic construction, as shown by microscopical investigation of the several tissues, the author observes:—

"Were life dependent on a strict maintenance of these exact conditions, disease would in every instance prove fatal. To obviate this, we find that life may be maintained, although perfect health may not be enjoyed, within a certain range of excess or deficiency of action of the different organs which contribute to the preservation of life, by virtue of the similarity of action of the different parts of the same organ, and of a kind of compensatory action of organs exercising a totally different function in the system."

Comparison is thus admitted as the only safe foundation for an opinion, whether it be based on the observation of physical



changes, or the estimation of their consequent vital manifestations.

Dr. Black, in his experiments respecting the coagulability of albumen, differs from the result arrived at by Dr. Carpenter, inasmuch as he observes, that acetic acid, contrary to the opinion expressed by physiologists, does not *dissolve* albumen, but, like other acids, *coagulates* it. The author, however, agrees with Kirkes and Paget respecting the solubility of "coagulated albumen" in acetic acid, if boiled with it, while denying that the process of simple digestion is adequate to such an end. The want of accordance between their results seems to consist in the details of the process employed not being sufficiently explicit, since it is admitted, that albumen is soluble by digestion in the solution of caustic alkali, and by boiling in acetic acid. The matter is too easy of demonstration to admit on other grounds of so material a difference. That acetic acid coagulates albumen in its natural state, but is also capable of perfectly dissolving the same coagulum when subjected to boiling heat, Dr. Black has in his experiments verified.

Proceeding to the investigation of the diseases and lesions of the bronchio-pulmonary mucous membrane, we find them ranged under the following heads:—

1st. Inflammatory diseases.

2nd. Diseases for the most part non-inflammatory.

3rd. Lesions of structure.

While inflammation of the bronchio-pulmonary membrane may be,—1. Simple, acute, or chronic; 2. Sthenic or asthenic; 3. Specific; acute inflammation is subdivided into:—1st. Simple acute epithelial bronchitis. 2nd. Bronchitis involving the sub-mucous tissue. 3rd. Cellulitis, or inflammation of the epithelium of the pulmonary cells.

The first pathological condition of epithelial bronchitis is described as being characterized by inordinate congestion of the blood-vessels, when narrowing of the caliber of the air-tubes is consequent on vascular pressure. Hence arises the sensation of a tightening of the breathing, and of oppression in the chest. This pressure, acting as an irritant on the accompanying pulmonic nerves, by reflex action induces cough, which is at first unattended with expectoration, owing to the temporary suspension of the supply of the nutritive blastema furnished by the blood. At length, in the surcharged vessels the continued pressure of the blood overcomes the vital tonicity of the capillary walls, and exudation is poured out more quickly than in the healthy nutrition of the part. A condition identi-

cal with this has been described by Dr. Stokes as denoting the first stage of pneumonia, in which "the lung is drier than natural, with intense arterial injection. No effusion of blood into the cells." So far ordinary and microscopical observation coincide.

This doctrine of reflex action through the pulmonary nerves may sufficiently account for the paroxysmal attacks witnessed in asthma and hooping-cough, as well as those sudden nervous complications which arise pending many chest affections; while the apparently normal character of the sound elicited by percussion is justly ascribed by the author to our incapability of appreciating those fine differences of necessity present. The ordinary laws of acoustics would negative the supposition that, consequent on such admitted differences of structure, the production and transmission of sound would be unaffected.

Many years have elapsed since it was written<sup>a</sup>,—"It would be an interesting question, as connected with the want of dulness in bronchitis, to determine whether, pending the turgescence of the bronchial membrane, some degree of dilatation of the air-cells may not exist, so that the air thus accumulated might compensate for that which has been displaced by the state of the mucous tissue. Could we thus account for the clearness on percussion, notwithstanding an extensive congestion of the minuter tubes?" We shall find this inquiry is answered in a more advanced part of the present work.

This uncertainty of percussion is fully counteracted by the fact that, consequent on the diminution in the diameter of the affected bronchi, the inspiratory and expiratory air is thrown into sonorous vibrations, and hence the production of certain ronchi, the loudness and shrillness of which are proportionate to the size of the opening, the sharpness, tenseness, and rigidity of its edges, as well as the rapidity of the moving column of air. The negative and positive indications thus assist each other, since the chief guide to diagnosis rests "in the absence of dulness, and the existence of acute irritation of the lung"<sup>b</sup>.

Reasoning on this pathological condition, the treatment indicated is:—1. To unload the overburdened capillaries. 2. To prevent their subsequent distention. The means the author proposes are,—general depletion, purgation, and increasing the secretions generally, with the constant breathing of *cold* air, by which the tonicity of the capillary vessels may be both excited and maintained.

<sup>a</sup> Stokes' *Disease of the Chest*, 1837, p. 68.

<sup>b</sup> Stokes.



“The second pathological condition of epithelial bronchitis,” or the stage of secretion, is characterized by the presence of mucous and submucous ronchi, when, consequent on the elimination of mucus, the surface of the membrane is covered with an excess of its natural secretion, coincident with which is the reduction in size of the distended capillary vessels, and relief of the pressure they exercised on the nervous filaments, leading to corresponding diminution of the cough.

This disease microscopical observation seems to point out as consisting in “an excessive nutrition, arising out of an overplus of nutritive blastema supplied to the basement membrane, and consequently exciting inordinate cell-growth in its epithelial covering.” From the absence of all inflammatory exudation in the bronchial secretion it is concluded, that the submucous tissue is not affected. The author thus differs from Dr. Williams, who regards the degrees of intensity of acute bronchitis to be a question rather of extent than of pathological character, inasmuch as, in the milder kind (epithelial bronchitis), there is presumptive evidence that the submucous tissue is not the seat of exudation; whereas, in the severer kinds of bronchitis, inflammatory exudation invariably occupies that structure. The microscopical appearance of the secretion in this stage is as follows:—

“It consists of well-formed mucus-corpuscles, mingled with epithelial or basement patches, floating in a viscid fluid menstruum—the contents of cells which have already liquefied. The epithelial or basement patches are chiefly present in the first portions of the secretion, and are caused by a blighting of their cells by the suspension of the natural fluids, transudations from the blood through the basement membrane during the previous stage of the disease. Sometimes these patches are formed entirely of epithelial cells which have almost attained a perfect development, but which yet cohere by their edges.”

The curative indications deducible from such appearances are:—1. To diminish the supply of nutritive blastema to the basement membrane, and thereby to limit the amount of cell-growth upon its free surface. 2. To restore the vital tonicity of the bronchial capillaries, and thus to enable them to reduce their quantity of blood to the healthy standard. For the means the author proposes to accomplish these indications we must refer to the work itself.

The difference between bronchitis involving the submucous tissue and the epithelial variety is thus specified:—

“Epithelial bronchitis is always acute, whereas the above variety

may be either acute or chronic. The former is always sthenic in type; the latter is either sthenic or asthenic. In epithelial bronchitis the epithelium and basement membrane only are affected; in the above variety the submucous tissue is likewise involved. In the former the discharges from the affected membrane consist of epithelial scales or patches, and an excess of the natural secretion; in the latter, certain organic and inorganic bodies are added to the above. The effects of epithelial bronchitis are, epithelial desquamation or ulceration, and epithelial and basement hypertrophy. Of bronchitis involving the submucous tissue, ulceration, hypertrophy, bronchial abscess, and bronchial obstruction, as primary; and emphysema, bronchial dilatation and collapse, and atrophy of the pulmonary tissue, as secondary."

The submucous tissue being involved, the bronchial congestion is more intense, and the phenomena arising out of it proportionately aggravated; while, in this stage, if the disease is at all extensive, and more particularly if it affects the capillary bronchi, a slight yet manifest deadening of the percussion sound is present.

The modification of dulness in this stage is regarded by the author as being dependent on the extent and type of the disease, and on the particular bronchi affected. The suggestion of Dr. Stokes respecting the rarefaction of the included air, owing to the impediment offered to expiration by the narrowing of the bronchial tubes, is negatived on the ground, that the force of the expiratory act more than counterbalances the slight opposition afforded by the mere turgescence of the bronchial membrane.

The indications for treatment are:—1. To relieve the congested condition of the bronchial membrane, by derivation of blood to the skin, and occasionally to other organs, for the purpose of increasing their function. 2. To maintain the due aëration of the blood, and to give to the latter sufficient nutritive materials to support the general system, and to restore its deficient tonicity. 3. To gradually excite the vital tonicity of the capillary walls, by the constant inhalation of a cool air.

In the second stage of this form of bronchitis involving the submucous tissue, the presence of pus-cells in the exudation is regarded as being due to the action of oxygen on the structures of the plastic corpuscles, by which they undergo an *adipoceros* degeneration, similar to the well-known effect produced on dead muscular tissue when exposed to moisture, and to a very partial contact with air. This transformation from the exudation to the plastic corpuscle, and thence the formation of the pus-cell, indicates a lesion of vi-



talities, involving the fibrine out of which they spring, the deficiency of the constitutional powers being in proportion to the dimensional and figurative aberration of the cells from the standard of healthy pus.

From microscopical observation, Dr. Black is led to the conclusion that it is an error to suppose pus can be formed on the free surfaces of mucous membranes without there being any breach of structure, "since every case of pus from mucous surfaces is invariably preceded by epithelial desquamation, and not *unfrequently* by ulceration of the basement membrane itself." On this point we may observe, "the secretion from a diseased mucous membrane gradually changing from mucous to purulent, independently of ulceration, was pointed out by Professor Charles Badham in 1808, while the gradual transformation of mucous corpuscles, or rather the succeeding of purulent to mucous secretion from the same secreting surface, was first distinctly shown by Vogel, and figured by him in his 8th Plate"<sup>a</sup>. Dr. Black regards one secretion as a modification of the other, consequent on the different degrees of vitality.

By the term "pulmonary cellulitis" the author proposes to designate inflammation confined to the epithelium of the pulmonary cells,—“a disease which is extremely prevalent amongst children, and often regarded as pneumonia, and which is not rare even in adults.” In the second stage of this affection the physical signs are identical with those of Laennec's first stage of pneumonia, while the pathological condition indicating its development is similar to that Dr. Stokes lays down as being the first step in pneumonic inflammation. In both affections we have cough, dyspnoea, sense of internal weight and burning, quickness of respiration, diminished volumes of air entering the affected lung, local dulness, and increased resonance, with compensating action of healthy organ; while in the more advanced period of the sinking stage the sputa are copious, of a thinly viscid character, and of a prune-juice colour. Fortunately for the patient, the diagnosis between this affection and the earlier stages of pneumonia does not materially affect the treatment, which is similar to that indicated in bronchitis involving the submucous tissue.

In corroboration of the fact that through the epithelial cells morbid elements are eliminated from the system, Dr. Black adduces three cases, which prove that "when a constitutional peculiarity, a particular diathesis, or another disease,

<sup>a</sup> Hasse's Pathological Anatomy, p. 264.

is associated with cellulitis, the exudation from the pulmonary membrane contains frequent evidence of the presence of certain products, dependent on such peculiarity of constitution or other disease in the system." That the excretion from the lungs partakes of the characters of the circulating fluids, and is modified by special constitutional states, observation of disease has long established. The fact now brought prominently forward is important to be borne in mind, as explanatory of many of those cases of apparently sympathetic pulmonary irritation.

In his observations on chronic bronchitis, the various pathological conditions which arise pending its continuance are fully detailed, the different forms of sputa being classed under four varieties, which depend on the particular pathological condition of the affected membrane, on the age and on the constitutional powers. These varieties are as follows:—1. Sputum of plastic bronchitis; 2. Sputum of the early stage of simple chronic bronchitis; 3. Sputum of the latter stage of simple chronic bronchitis; 4. Sputum of simple bronchitis. We are unable to do more than particularize the forms described; every practical physician will read this portion of Dr. Black's volume with advantage, since truths are therein confirmed, as well as doubts removed. In his observations on the sputum of plastic bronchitis, which has already been so ably described in the writings of Raynaud, Baillie, Stokes, and others, the author states that the differential diagnosis between those casts the products of simple bronchitis, and those resulting from a tuberculous diathesis, depends on the shortness and absence of ramifications in the latter, with the presence of granular bodies, and epithelial scales studded with granules, cast off by the other parts of the generally affected bronchio-pulmonary membrane. In certain cases the application of electro-galvanism daily to the spine is advocated: the observation of other writers is confirmed by that of the author, who testifies to the frequent benefit which results from its use.

Dr. Black concludes his valuable essay by an inquiry into how far are the different forms of asthma dependent on inflammation of the bronchio-pulmonary membrane? He recognises two distinct forms of the disease.

"The one in which the paroxysm comes on suddenly, and is followed by an interval of perfect ease, during which there is neither the slightest difficulty of breathing, nor the least increase of the bronchio-pulmonary secretion; the other, in which the invasion of the paroxysm is more gradual, in which there is more or less straitened breathing during the interval, and in which the secretion



of the membrane is somewhat greater than that of health, and is also changed as to its physical appearance to the naked eye, as well as being microscopically and chemically different."

The first, nervous or dry asthma, to which the term "sympathetic" is considered as most applicable, is, from its uncertain pathology, involved in much obscurity; and, from the absence of definite pathological conditions, is but lightly entered on. The second is regarded as being consequent on chronic inflammation of the bronchio-pulmonary membrane, the microscopic examination of the sputa indicating such to exist. The general thickening of the membranous structures which ensues is, in some cases, accompanied by an evident degree of hypertrophy of the local sentient nerves.

The physical and vital phenomena allied to this disease are fully set forward. The fact, that inflammation may pass through its different stages, without the attendance of asthma, leaves the question still open, as to the cause which associates such an affection with a special condition.

In experiments instituted to determine the capability of the bronchial fibre to diminish the caliber of the tubes, Dr. Black differs from the conclusions arrived at by Volkmann, and negatives the opinion that contraction of the bronchial fibre may be produced by galvanism applied to the vagus nerve; but admits that it is readily produced by the direct application of the galvanic stimulus to the mucous lining of the tubes themselves.

The occurrence of bronchial dilatation is, according to our author, explicable on the unequal process of inflammation in the bronchi, and consequently unequal resistance to the column of air during inspiration, giving rise to the dilatation of those portions of the tube in which the action of the fibres is abolished. The views of Raynaud and Stokes are thereby confirmed, while the varied forms which the affection assumes are adequately explained.

The indications for the treatment of asthma are:—1. To relieve spasm of the bronchial fibres. 2. To withdraw the exciting cause, and to correct any condition of the system which may indirectly contribute to an attack.

The application of microscopical observation to the pathology of the bronchio-pulmonary mucous membrane, constituting a new feature in the diagnosis of chest affections, has induced us to enter thus fully into a review of Dr. Black's volume, which purports to be the first part of a work promising much valuable and important information. Original investigation is its leading characteristic. Our careful study of its

contents has more than ever filled us with admiration of the accuracy of observation and acuteness of reasoning of those writers, who, without the opportunity of such minute investigation, had, on some of the most important particulars, arrived at the same conclusions as the author; thus establishing fully (if there was any doubt on the subject) the truthfulness and value of the means we already possessed.

In those cases especially where there is an apparent identity in the physical and vital phenomena, microscopic investigation must prove invaluable; at the same time the close similarity between morbid products in different diseases, as well as in the various stages of the same disease, will ever render the stethoscope the grand instrument for the general recognition of those affections, to whose literature the present publication must be considered as one of the most important and valuable additions.

In conclusion we may observe, the work is fully illustrated by admirable wood engravings, which cannot fail to convey to the reader correct impressions of the particular conditions detailed.

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*A Treatise on Diseases of the Heart.* By O'B. BELLINGHAM, M. D., F. R. C. S. I., one of the Medical Officers of St. Vincent's Hospital, &c. Dublin: Fannin and Co. 1853. 8vo, pp. 252.

THE physiology and pathology of the heart, from a state of neglect, and its consequence—a degree of ignorance which now seems almost marvellous,—have advanced with a rapid yet even pace during the last thirty or forty years. The works of Lancisi, Senac, and Meckel upon cardiac diseases, which appeared about the middle of the last century, afforded much information upon the morbid changes discoverable in the heart after death, but failed in practical utility from the admitted difficulty of detecting during life the signs of these lesions. In like manner, the researches of Corvisart, Burns, Testa, and Kreyzig, in the earlier part of the present century, are valuable as pathological records, but imperfect from the vague enumeration which they give of possible symptoms. It was not till the discovery of percussion and auscultation that a new era commenced from which cardiac disease became susceptible of interpretation; and from thence to the present day, facts and theories mutually illustrative upon this subject have multiplied so fast that a body of circumstantial evidence now exists which in practised hands renders the diagnosis of these affections a



matter comparatively easy, and the error liable to be committed a gradually vanishing quantity.

Next to the publication of Laennec's memorable work, we are probably most indebted for these results to the British Association for the Advancement of Science, as it was from this learned body the impulse was given which led so many eminent individuals in these countries to give their attention, both singly and collectively, to the subject. The reports published by the Dublin and London Committees have commanded attention for the skilfulness of the experiments instituted, and the cautious inductions from them; and very many of the members connected with these examinations have given us most valuable publications on cardiac pathology. Indeed there seems at present scarcely any disease of the heart which has escaped attention; and we feel disposed at times to pronounce its nosology complete until some novel view, the result of original genius and patient research, shows us that we have been too hasty in our conclusions. We need only refer to the recent contributions upon fatty degeneration of the heart, and the connexions lately traced, with such felicitous perspicacity, by Drs. Law, Burrowes, and Kirkes, between cerebral and cardiac diseases. While, therefore, the finger of discovery is still busy in exploring new affections of this organ, the task is not neglected of collecting the stores daily accumulating, and of thus advancing, though in a less ambitious way, our knowledge in this useful field.

We have now before us a work of this character, from the pen of Dr. O'Bryen Bellingham, in which the history and details of cardiac affections are brought down to the information of the present day. His Treatise upon the Diseases of the Heart does not, he tells us in his Preface, appear as an altogether new work, large portions of it having already been published in the form of clinical lectures in some of the weekly periodicals. The author, in compliance with an invitation to publish these lectures in a distinct shape, has carefully revised and expanded them, changing also their appearance from the colloquial to the dissertational form. Some remains of their original intention may be found probably still adhering to them: for instance, the author has inadvertently, we should think, given an introductory chapter on the anatomy of the heart. It is not our wish to criticise the information there afforded, which is an excellent digest of this subject in a small compass; but it presupposes an amount of ignorance in his readers which is not very flattering to their *amour propre*. In addressing a crowd of hospital pupils, it is no doubt prudent to familiarize

their minds with rudimental details; but in a work intended for practitioners we cannot but consider it out of place, and calculated to raise in the mind, when thus put so prominently in the foreground, an opinion of triteness against the work which it does not by any means deserve. If such a practice were to be general, both the writer and reader of works on practical medicine should begin by carrying themselves back to the time when they were *in statu pupillari*.

Having liberated our conscience by this protest, we now proceed, with much pleasure, to afford our readers a glance through Dr. Bellingham's present volume. His Treatise on the Diseases of the Heart consists of two parts: the first of which, now published, is occupied with a description of the healthy heart, its motions and sounds; together with the various symptoms and physical signs furnished by disease. The second part, which has not yet appeared, is appropriated to the organic diseases of the heart, and its functional or inorganic affections. The present volume is divided into nine chapters: the four first contain an examination of the heart in health; the fifth and sixth explain the results of auscultation and percussion of that organ; and the three last embrace the general signs, the secondary symptoms, and the etiology and prognosis of these affections. Upon each of these heads the author has sedulously gleaned, from the productions of numerous authors, a large amount of valuable matter, fairly assigning, as far as he could, *suum cuique*, and filling up the intervals from the store of his own experience, which is not small.

The author, in endeavouring, as a necessary *point de départ*, to establish a standard of comparison with which to compare the size and weight of the diseased heart, has availed himself of the researches of Bizot, adopting his theory that the size of the healthy heart is more proportional to the width of chest than to the stature of the individual. It seems to approach a paradox, that while, according to the same authority, the heart of the male gradually increases in dimensions till death, never undergoing in old age that atrophy which marks senile decline in other parts of the muscular system, the female heart should increase up to the age of fifty, and then gradually decline in size and weight. The reason of this singular difference is not explained, and hence the standard heart must, if these results be well founded, be variously estimated in both sexes. The weight of the average heart can scarcely be regarded as fixed when we find so large a difference as from six to ten ounces assigned by the best authors, scarcely any two being perfectly agreed, and the examples still too few to bring conviction. Still



more do we want fuller information upon the relative thickness of the walls, the capacity of the cavities, and the diameters of the valves in their normal condition; the amount of our present knowledge has, however, been given us by Dr. Bellingham in a very clear and succinct manner.

We pass from the second chapter to the fourth, as it affords us the opportunity of presenting our readers with Dr. Bellingham's views on some of the disputed points of cardiac pathology. We allude to his opinions upon the double impulse and the sounds of the heart. On the first of these points he speaks as follows:—

“If we carefully examine the heart when it is beating vigorously, we shall find that a second, but slighter, impulse is perceptible, which quickly succeeds the other, and on applying the stethoscope we shall find that this second impulse accompanies the second sound of the heart, it appears as if the agency which gives rise to the second sound was capable of communicating a distinct sensation to the hand or stethoscope.”

And again:—

“In the healthy heart the second impulse is scarcely felt, unless the organ beats vigorously; when the ventricles are somewhat hypertrophied, and their cavities somewhat dilated, the second impulse becomes better marked; when this has arrived at an extreme degree it becomes very evident, and constitutes then the ‘back stroke of the heart,’ or the diastolic impulse. This diastolic impulse, except in cases of disease, is never so strong as to be perceptible to the eye, but is readily distinguished when the ear is applied to the stethoscope laid upon the præcordial region. It is perceived at the same part of the chest as the systolic impulse, and is more marked the larger the surface of the heart uncovered by lung, and the stronger the action of the organ.”

That in certain cases of cardiac disease a second impulse is perceptible, will, we believe, be admitted by every person who has attended much to this class of affections. This second impulse the late Dr. Hope imagined he was the first to discover, and it received from him the name of the back stroke or diastolic impulse; but, though he has the merit of directing attention to it, and doubtless of finding it out by unaided observation, yet the idea of it, like some other supposed discoveries in auscultation, can be found in Laennec's work. Thus, he says:—“The impulse of the heart is only felt during the systole of the ventricles, or if in some rare cases an analogous phenomenon accompanies the contraction of the auricles, this is easily distinguished from the former. In fact, when the systole of the

auricles (Laennec's supposed cause of the second sound) is attended with any sensible action, this is perceived to have its seat much deeper, and the heart even seems to be receding from the ear. Most commonly the motion consists of a sort of trembling felt deep within the mediastinum. In any case it is very little marked, as compared with the sensation produced by the contraction of the ventricles when these are of a good degree of thickness"<sup>a</sup>.

The principal diseased condition of the heart in which the second impulse has been noticed is hypertrophy with dilatation of both ventricles; aneurism of the descending aorta may also produce it: we recollect a striking example from the latter cause, in which the diastole was attended with a much more remarkable impulse both to the eye and ear than the systole, its force being similar to the recoil of a powerful elastic spring as the heart retreated towards the vertebræ; the direction of its action was obliquely from right to left. In this case a large aneurism was found behind the heart.

Cases of disease also occur in which a double or triple impulse is associated with a single beat of the pulse. Some writers, and especially Bouillaud, regard this as a diastolic movement, others consider it a systolic, and arising either from repeated efforts of the ventricles to send on the blood, or from a want of synchronism in the contractions of both. Gendrin has already noticed that, in cases where the descending aorta is abnormally lengthened and consequently the position of the heart more depressed in the thorax, it is indicated by a heaving impulse during the diastole, perceived below the third rib. As to a second impulse produced by the healthy heart, it is a matter of such difficulty to detect that the most accurate observers confess that they are at fault. Skoda absolutely ignores its existence; without, however, discrediting our author's statement that he has felt it, we may on a point of such doubtful evidence be content with the well-known axiom, "*de non apparentibus atque non existentibus eadem est ratio*."

The numerous theories proposed in explanation of the sounds of the heart have received full and impartial consideration at the hands of the author, and he has classified them according to their supposed causes, viz., impulse, muscular contraction, valvular tension and movements of the blood. The arguments for and against each of these he considers at length. The theory which he adopts himself is, that both sounds can be explained by friction between the blood and the parietes of the orifices of the heart:

<sup>a</sup> Forbes' Laennec, p. 553.



“It seems not unreasonable to refer the first sound to the friction between the blood and the parietes of the arterial orifices during the ventricular systole; the second sound to the friction between the blood and the parietes of the auriculo-ventricular orifices during the ventricular diastole.”

In explanation of the first sound, he observes that, “in the rapid passage of the blood from a wider to a narrower area there must be considerable friction between this fluid and the arterial orifices.” Its prolonged nature can be explained “by the continued development of sound during the entire period that the blood is passing from the ventricles into the larger arteries,” and which is in direct proportion to the slowness of the action of the heart; hence, according to him, the amount of resistance to be overcome, the longer time required, and the larger amount of space over which the blood passes, are elements sufficient to explain the first sound.

The second is determined, in his opinion, by the blood passing in a sudden influx from the auricles through the auriculo-ventricular valves. He adduces Cruveilhier's case of ectopia cordis to show that the blood enters the ventricles with such force that when the organ was grasped with the hand during the ventricular diastole, it was violently and forcibly opened. The mechanism of this full and rapid entrance of the blood he does not fully explain; he discards auricular contraction and active dilatation, so that we may conjecture it to arise from the *a tergo* pressure. He thinks the shortness and suddenness of the second sound can be explained by the rapid relaxation of the fibres of the ventricles, so that the blood comes at once into collision with them.

Several arguments are adduced from pathology by the author in support of his friction theory. One is, that in aneurism springing from the arch of the aorta, a double sound is audible which so closely resembles the double sound of the heart “that the second sound of aneurism in this situation is erroneously supposed by many to be the second sound of the heart transmitted to the aneurismal sac.” As, he contends, the aneurismal sounds are indubitably caused by friction between the blood and the parietes of the orifice of the sac, it must follow that such an agency is at least *sufficient* to explain the heart-sounds, without regarding either valvular apparatus or muscular walls, which, on the principle that the more simple an explanation is the more it approaches probability, become unnecessary. He further argues that, as aneurism can generate sounds like the heart-sounds, so they can change them to murmurs identical with the heart-murmurs: thus, similar nor-

mal and abnormal sounds can be produced in both by a similar mechanism. In addition to these general reasons, he adduces particular arguments in favour of his theory of each sound. Thus, any impediment to the transit of the blood through the aortic orifice usually converts the first sound into a murmur; the same may happen when the left ventricle is hypertrophied, though there be no arterial obstruction, by reason of the increased force with which the current is sent onward. In like manner, the first sound becomes a murmur when the viscosity of the blood is diminished, this fluid being propelled with increased velocity; or the contrary, when, from fatty degeneration or softening of structure, the propulsive power is weakened, the first sound will become feeble or inaudible. Lastly, the duration of the sound will be lengthened or curtailed according as the parietes of the ventricles are thickened or attenuated.

That the second sound arises from friction of the blood entering the auriculo-ventricular orifices will appear, he contends, from this sound diminishing in intensity according to the degree of contraction in the mitral opening, and becoming almost inaudible when this is extreme. This is explained by an insufficiency of blood entering the ventricle to produce sound. The same occurs in animals subjected to experiment; the ventricles becoming gorged with blood, and, the entrance of a current adequate to develop sound being prevented, the second sound ceases. The second sound is seldom converted into a murmur, because there is nothing to *increase* the force with which the blood enters the ventricles from the auricles, hypertrophy of the latter being very rare. When a murmur is heard at the period of the second sound, it arises from aortic regurgitation, the greater loudness of which masks the second sound, which, though feeble, will still be found to exist, for the backward current through the aortic valve will lessen the quantity of blood entering by the mitral, and thus diminish the sound.

We have thus given a *resumé* of the principal reasons put forward by Dr. Bellingham in defence of the friction theory. They are very plausible, and are supported with much ingenuity, but, like all the other modes of explanation, they are open to objection. First, as to the capability of aneurism springing from the arch of the aorta to develop sounds identical with or nearly allied to those of the heart, it is argued that the double sound heard over the aneurism is not connected with the heart-sounds, because it is not only constantly louder than the latter, but also varies, murmurs being heard over the



sac, while the sounds over the heart remain unchanged, or the reverse. It must be admitted that there are strong reasons in favour of the independent origin of the aneurismal sounds, but we do not think them so indisputable as to justify Dr. Bellingham in making them the basis of a theory. It may be naturally asked, why, if aneurisms be able to generate double sounds *per se* in the thorax, distinct from the heart, they should only be able to generate a single sound in the abdomen? No doubt various attempts have been made to solve this mystery, some, with Gendrin, contending that a second sound is always audible in sacculated abdominal aneurism, contrary to the evidence of most observers; others, with Dr. Lyons, offering the very ingenious but scarcely tenable explanation, that the arterial systole *follows* the ventricular in the thorax so as to cause a double sound, but in the abdomen acquires by some means an accelerated pace, which enables it to overtake the slower course of the ventricular, and thus by a simultaneous effort produce a single sound. The theory of regurgitation into the sac which Dr. Bellingham employs to explain the second sound of thoracic aneurism, and which he assumes will be absent in abdominal, is still less probable. The transmission of the second sound from the heart is not necessarily confuted by the exaggeration of sound heard over the sac; we know that in solidification of the lungs, the sounds of the heart are augmented and extended, so when the density of the aorta is increased by deposits of fibrin, it is placed in a favourable position for multiplying sound.

As to the friction of the blood affording a satisfactory exposition of the first sound, there are many arguments in its favour, and we are ready to grant that Dr. Bellingham has made out a strong case for his opinion, though, contrary to the usual doctrine, he recognises but one source of sound. Still it does not explain some phenomena. For example, when the mitral valve allows regurgitation, a distinct first sound is rarely heard over the left ventricle, but is replaced by a murmur, which seems to show that the auriculo-ventricular valves have some effect in contributing to the first sound. Again, if Dr. Williams' experiments be well founded (and they have lately been questioned in our pages by Dr. Leared in his excellent paper), the passage of the blood is not a necessary element of the sound, as it continued to be heard when no blood passed through the ventricle. It might also be anticipated that in a hypertrophied left ventricle, without arterial obstruction, in which the blood is sent on with increased impetus, the sound should always increase in loudness and clearness, whereas

the contrary is frequently the case. Further, it admits of doubt whether a diminution of the viscidty of the blood will impart such an augmented velocity as necessarily to produce a murmur during its exit through the aortic orifice. That murmurs do occur must be admitted, but cases apparently similar exist when they are absent. "It is not true," says Skoda, "that a watery state of the blood is a cause of murmurs in the heart. I have many times abstracted very watery blood from patients in whom no murmurs existed." It is, as he observes, but a hypothesis.

The author's explanation of the second sound has less foundation. Independent of the support from carefully instituted experiments which the closure of the semilunar valves and the recoil of the blood against them have received as the cause of the second sound, objections can be made to the hypothesis of Dr. Bellingham: for instance, there is reason to conclude that the blood does not enter the ventricles instantaneously after the systole, but gradually, and with a motion too gentle to cause sound; and it is admitted that the auricular contraction which completes the repletion of the ventricle is too feeble to produce sound, besides, the sound, if arising from this cause, should be continued and not abrupt. Arguments against this theory may also be adduced from the greater distinctness of the second sound perceived in the course of the aorta than at the apex of the heart, which can scarcely be explained on this hypothesis: but we must resist the temptation to prosecute this subject any further.

The author's remarks on the abnormal impulse are valuable, as it is a very important matter to draw a line of contradistinction between the impulse produced by hypertrophy and that fictitious condition which occurs in aggravated dyspepsia and some nervous habits, and which causes such alarm to the patient, and not unfrequently to the young practitioner. Skoda's division of the impulse into three degrees is important to bear in mind,—first, that which neither raises the parietes nor shakes the head of the auscultator; secondly, that which does not raise up the thoracic walls, but imparts a strong concussion to the head of the auscultator; and thirdly, that which raises both. We must regret, however, the imperfection of these rules in accurately marking disease. Thus, it is well known that a heart may be hypertrophied, yet produce little impulse, and that an impulse which will impart a smart shock to the head of the auscultator may be the result of merely increased action, as well as hypertrophy. Other data, however, such as



the extent of dulness on percussion, may serve to clear up the diagnosis.

We find some interesting observations upon *frémissement cataire*, where the morbid conditions in which this sign is perceptible are enumerated. The author arrives at the general conclusion, that in every case in which it is felt, whether in the heart or the arteries, the cavity in the vessel is in an *unfilled* state:—"I consider this unfilled state of the vessels, combined with a certain amount of force and velocity of the current of blood, to be the immediate cause of this phenomenon, the thrill or vibration communicated to the hand being more marked when the lining membrane of the part is rough or irregular from disease."

His chapter on abnormal murmurs will amply repay perusal, though of course they are explained according to his theory of the heart-sounds.

In his observations on venous murmurs he has proved that the continuous sounds heard in the neck are due to the motions of the blood chiefly in the internal jugular vein, a theory which, except by the French, is now almost universally allowed. The intermittent sounds heard in the same position are carefully to be distinguished from the above, and are due to the carotid arteries. Dr. Bellingham has shown, that while a certain degree of pressure by the stethoscope is necessary to produce the venous murmur in a tense state of the fascia, a greater degree will obliterate it, which would not be the case if it arose from the arteries.

Among the general signs of cardiac disease described by the author, we find the twofold appearance of the countenance defined, the bloated and purple aspect being as peculiar to one set of cases as the pallid is to another. Prominence of the eye-balls is also alluded to by him, though he lays less stress on it than other writers do, especially the late Dr. Graves. Angina pectoris is regarded by him, not as a distinct disease, but rather as a symptom, and he looks for its cause "in a sudden impediment to the coronary circulation, particularly to the return of the blood by the coronary veins." His remarks on the subject of polypoid concretions deserve consideration, though he differs from Rokitanski in disbelieving that these bodies can ever be supported by blood passing through the organ. In his last chapter, on the progress of cardiac disease and its duration, interesting remarks will be found on the mode of death in heart affections, a subject which has not yet been sufficiently studied, and which Dr. Corrigan, in his valuable

paper on patency of the aortic valves, has handled with his usual ability.

Before we close the pages of Dr. Bellingham's excellent work, we wish to notice one point which we hope to see corrected in his second part, as we think it takes from its value, especially as regards the junior members of the profession, and that is, the *incuria* with which the references are cited. Dr. Bellingham, in a spirit of most praiseworthy fairness, desires to give his authority, when he can, for each salient point; but it is done in so loose a manner as to be almost useless, or at least very troublesome to persons who may wish to refer to the author. He seldom or never gives the page, sometimes not even the volume. Perhaps if the names of his authorities were less frequently introduced into the text it might be better, as the frequent repetition of the phrase, "Dr. — observes," is almost a blemish. The recapitulations of the contents of each section at its close are important, still they may be carried too far. We feel sure that it is only necessary to draw attention to these minor details to have them corrected.

We desire, in conclusion, to record our fullest approbation of this first part of Dr. Bellingham's work, as a most valuable contribution to cardiac pathology. It contains an excellent synopsis of the signs and symptoms of heart disease: the causes of each carefully explained and detailed in a most intelligible manner. We hope to find him soon again in that field in which so many of the Dublin school have won their laurels; and we venture to augur that, if the succeeding portion be equal to the first, his *Treatise on the Diseases of the Heart* will not linger on the shelves of his publishers.

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*On the Decline of Life in Health and Disease, being an Attempt to investigate the Causes of Longevity, and the best Means of Attaining a Healthful Old Age.* By BARNARD VAN OVEN, M.D., &c. London: Churchill. 1853. 8vo, pp. 300.

ALTHOUGH we nowhere find it expressly stated that this work is intended to be a merely popular one, yet, in justice to its author, we must suppose such to have been his design. For, after a careful perusal of its contents, we have failed to discover therein any new or original observations, either as to the prophylaxis, pathology, or treatment of disease at any stage of life. The physiological descriptions, moreover, are superficial and purely elementary; and the dietetic rules such as every tyro in medicine is supposed to be acquainted with. The book



is not without some redeeming features, however. It puts forward nothing palpably unsound in theory, or bad in practice; and in the form of an Appendix is subjoined a Table showing the name, social condition, country, year of death, and age, of about two thousand persons who lived for a hundred years or upwards. More than four thousand other examples of a similar longevity are also referred to, but not detailed. The sources from which these numerous instances have been derived are of course very various, but, generally speaking, deserving of credit. These Tables, which occupy about one-third of the volume, evince no small amount of research, and, as far as they go, are very interesting; but we much doubt whether the history to be found accompanying the individual cases is of such a nature, or sufficiently exact, as to supply safe data for any useful or trustworthy general conclusions.

Besides a Preface (from which we learn that Dr. Van Oven has been thirty-five years in practice), and an Introduction, the work consists of four parts. Part I. is "on the decline of life in health," and is divided into three chapters, which give a very cursory view of the leading phenomena and changes that take place in the human body, during the periods of growth, maturity, and decline.

Part II. is "on longevity." The second chapter of this section is devoted to an examination of "the causes of longevity," but the author's investigations upon this highly important subject do not seem to have elicited any new facts, nor to have suggested any new views. The general conclusions at which he has arrived are merely confirmatory of the universally received opinions of the profession on this point at the present day:—

"Rejecting, then, climate, social position, and place of residence, we must seek for the causes of longevity in what concerns the individual, in his original stamina, in the healthfulness of the parents from whom he sprung, in his habits, avocations, and mode of life; in his immunity from the attacks of disease, in equanimity of temper, and freedom from great and frequent excitement."

A perusal of these causes of long life cannot be very encouraging to any one desirous of earning a place in Dr. Van Oven's list of centenarians, seeing that some of the most influential (healthfulness of parents, original stamina, &c.) are quite beyond his own control. Celibacy does not seem conducive to longevity, as we are told by the author that few of those who have attained to a great age passed their lives in this unnatural state. This is certainly an interesting and important fact, view

it in what light we may, whether moral or physiological; and it is one that Miss Martineau and the Malthusians would do well to become acquainted with. It also plainly teaches us that in this, as in every other matter affecting man's happiness, God's arrangements cannot be improved upon by human device or wisdom. Hufeland, in his "*Die Kunst das menschliche Leben zu verlängern*," makes a similar statement to the above, relative to eunuchs, and says he knew of no instance of their having attained to a remarkably great age.

The subject of Chapter III. is "the mode of attaining old age," and conveys in a concise but agreeable manner, some of the general rules and precautions which a proper regard for health demands, in respect to sleep, diet, exercise, study, &c. &c., and which are laid down by all writers upon dietetics and régime. It would be quite needless and unprofitable, therefore, to follow our author through these pages of his book. We are forced to acknowledge having felt a considerable degree of disappointment on reading this chapter. Its title would naturally lead one to regard it as *the* most important in the book, and accordingly we hoped to have found in it something more than a repetition of those long-established sanitary axioms which have become so familiar to us all by the writings of Paris, Abernethy, Hufeland, W. Philip, Parker, Smith, Pariset, Johnson, Day, &c., amongst medical writers; and Cornaro, Combe, Sir F. Head, &c., of popular authors.

Part III. treats of the decline of life in disease, and the author's object here is best conveyed in his own language:—

"It is not my intention to describe fully the diseases of age, or to point out their medical treatment. All this has been done by abler pens than mine; my object is neither to dispense with the physician nor with medicine. I wish to teach the aged invalid what he may well do for his own safety and comfort to avoid the attacks of disease, and when it does come to mitigate its evils and prevent its baneful consequence; and all this not to supersede, but aid, those really curative means which the skill and ability of his physician can alone suggest."

The twelve chapters following are appropriated to the fulfilment of this purpose; and most of the diseases incident to advanced life are passed in rapid review. His remarks chiefly, but not exclusively, refer to the preventive and palliative treatment of the various senile affections to which reference is made. Designed, as they are, more for patients than practitioners, they can hardly interest (not to say instruct) the latter; and we much fear whether they will attract the attention



they deserve even from the former. The subjoined piece of sound advice, particularly addressed to persons suffering under cardiac disease, would, if always acted on, render these twelve chapters quite superfluous:—

“At the very commencement of any derangement of health apply at once to those on whose judgment you can rely, and implicitly follow the course recommended by them.”

The fourth and last part of the volume is the Appendix, of which we have already had occasion to speak. In concluding this short notice, we cannot forbear expressing our regret that Dr. Van Oven, who seems to have been actuated with the laudable desire of doing something in the cause of suffering humanity, did not give the result of his observations and lengthened experience in some really valuable form. Semi-popular books of this kind are almost wholly useless in the diffusion of knowledge, being seldom or ever read by the public for whose enlightenment they are chiefly intended; whilst they possess nothing that can give them a just claim on the attention of professional men. Many works of this class have issued from the press within the last few years, and to nearly all of them this remark applies with no less force than to the one now under review. Some of the publications here alluded to received a passing notice in our pages, and we did not scruple to pronounce on each the same condemnation we now do on the whole class.

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*On a New Method of Managing Fractures.* From the Address in Surgery, delivered at the Twentieth Anniversary Meeting of the Provincial Medical and Surgical Association, held at Oxford. By J. T. HESTER, F.R.C.S., Surgeon to the Radcliffe Infirmary, Oxford. London: Churchill. 1853. Pamphlet, pp. 11.

THE treatment of fractures has ever been viewed by surgeons as particularly worthy of attention. In many instances of disease and injury the ignorance and carelessness of the practitioner are screened, and evil consequences averted by the kindly efforts of nature; but in the case of the simplest broken bone the proper application of art is essential, otherwise deformity, impairment of motion, and other unpleasant results are inevitable. Nature can only cement the broken fragments, art must do the rest that is required. Many mistakes and defects in treatment are frequently overlooked, and remain un-

known even to the individual himself; but an ill-set fracture is an enduring reproach recorded in the most palpable characters against the surgeon's skill. He who has witnessed the indignation of a young lady whose neck has been rendered unsightly by a badly set fracture of the clavicle; or the wounded vanity of the man of fashion, the symmetry of whose limbs has been spoiled by a fracture of the leg; or, again, the vexation of one whose livelihood depends upon bodily activity, at lameness resulting from the same cause,—can well appreciate the necessity of attending to the treatment of fractures, and the value of an efficient apparatus for their management.

Accordingly, many have been the plans proposed of doing up fractured limbs, and numerous the apparatuses invented for carrying out the purpose, but that the latter are for the most part inefficient is sufficiently proved by the number that are constantly being added. The great cause of the inefficiency of almost all the different forms of apparatus in use is obviously attributable to the not bearing in mind every particular in constructing them, so as to make them fulfil all the indications required. Some apparatuses are adapted merely for maintaining extension, which many of them accomplish perfectly; but how frequently does an extension-splint cause increase of displacement in other directions! Others are devised entirely for counteracting lateral displacement without effecting the least extension, thus one only of the indications required is fulfilled. It is evident that apparatus is the most perfect, and will prove the most efficient, which is able to fulfil the most indications: to carry out this, however, is the great difficulty.

The object of the little pamphlet before us is to explain some forms of apparatus which its author has invented for different fractures, particularly for those of the thigh. Now whatever may be the mechanical skill displayed in the construction of these, certain it is that their inventor has not shown clearly where their peculiar advantages lie, nor explained at all satisfactorily the manner in which they act, and how they can be rendered applicable to fractures differing in situation and other respects. It may be that our dulness is such as to prevent our understanding clearly, and appreciating fully, what is easily comprehensible to others, and obviously of value; nevertheless we cannot but think that if Mr. Hester wished to do ample justice to his inventions, and to let the profession benefit thereby, he ought to have described them more graphically and demonstrated more fully the advantages they possess. To invent is one thing, to render the thing invented applicable to



a given purpose is another,—the former is comparatively easy, the latter involves the difficulty.

Mr. Hester's different forms of apparatus may be good specimens of mechanical art, but their suitableness to the purpose for which they have been designed is by no means obvious, especially in the absence of satisfactory demonstration. The apparatus upon which he principally dwells is one for fracture of the thigh, the discovery of which, it seems, he came to while making observations upon Mr. Earle's bed. The great defect he saw in the latter was the impossibility of keeping the limb fixed, and preventing it from following the movements of the body according as the back was elevated or depressed. He says :—

“Finding this to be the case, I considered that the best mode of treating fractures of the thigh would be to place the subjects of them on such a bed as would admit of the back being elevated or depressed, without at all interfering with the relative position of the trunk and thigh.”

The bed invented by himself Mr. Hester considers as chiefly applicable to fractures of the “neck of the thigh.” He repudiates, with energy of language, the idea of considering any given case of this fracture as incurable, particularly “as no one can say with absolute certainty whether the fracture is within or without the capsule;” neither does he think “that the impossibility of union, when it is intra-capsular, is by any means established.”

Accordingly, he is of opinion that union may take place if absolute rest can be maintained for a great length of time, and therefore it is that he views his bed as peculiarly adapted to such fracture, since a patient can lie upon it for the requisite period with comfort, the tediousness of the long confinement being lightened by his being able to sit up and lie down without danger. We cannot, however, agree with Mr. Hester, in the first place, that there is so much uncertainty in ascertaining whether a fracture of the neck of the femur be intra- or extra-capsular. No doubt we cannot arrive at that knowledge in any case with the certainty of a mathematical demonstration, but in what instance almost in surgery can diagnosis admit of such accuracy as this? In a large number of cases of fracture of the neck of the thigh-bone, doubtless much difficulty must be experienced in detecting its exact nature, but many will be met with in which the surgeon will feel no hesitation in arriving at a diagnosis upon which he may rely with as much

certainty' as can be brought to bear in almost any instance. The age of the individual, the degree and direction of the force which has broken the bone, the amount of shortening of the limb, the presence or absence of contusion in the vicinity of the hip, &c. &c., are circumstances which, though far from proving to a demonstration the exact nature of the fracture, afford presumption sufficiently strong upon which to found a correct diagnosis.

As to the possibility of osseous union of the fragments when the fracture is intra-capsular no one can entertain a doubt; and it has now been pretty well established that if perfect coaptation could be maintained for a long period, union would in general occur in this fracture as it does in any other. To maintain this coaptation, however, is the great difficulty, and certainly we cannot see how this much to be desired object can be *insured* by the apparatus of Mr. Hester. The other inventions of this surgeon are for fractures of the leg, humerus, and fore-arm, and drawings of them are given in the pamphlet; but as his very primitively executed wood-cuts are not accompanied by any particular description, nor any cases in which they have been tried recorded, we consider criticism upon them uncalled for.

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*A Manual of Materia Medica and Therapeutics; including the Preparations of the Pharmacopœias of London, Edinburgh, and Dublin; with many New Medicines.* By J. FORBES ROYLE, M. D., F. R. S., &c. Second Edition. London: Churchill, 1853. Fcap. 8vo, pp. 801.

AMONG the many valuable works on *Materia Medica* with which English medical literature abounds, the *Manual* of Dr. Royle deservedly holds a high position for several excellencies peculiarly its own, and we are therefore much gratified to find that these have been duly appreciated by the profession, as is now shown by the demand for a second edition. From the great opportunities which the learned author enjoyed, while resident in India, of becoming practically acquainted with the numerous valuable drugs derived from the British Possessions there, his work is the best authority on their origin, natural history, and physical properties; and, from the fame which he has so justly acquired as an eminent botanist, the department of the subject connected with or dependent on botanical research is treated in the volume before us with, we must say, more care and attention than by any other author. Indeed, the only



point in which Dr. Royle's *Materia Medica* is at all deficient, is in the account given of the action and uses of medicines; and this would seem to arise chiefly from an anxiety to keep his work within as narrow limits as possible, so as to make it correspond with the other students' manuals issued by the same publisher, and which have gained so extended a celebrity as text-books. In his Preface the author expresses his regret that his own avocations prevented him from assisting in the completion of the last part of the third edition of the late Dr. Pereira's *Materia Medica*; and in this expression of feeling we fully participate, for we do not know any other English writer on the subject more competent than Dr. Royle to conclude that *magnum opus* in a way worthy of the illustrious deceased. We regret also that, from the same cause, he was compelled to require the assistance of Mr. F. W. Headland in the bringing out of his own book, as, in a work on *Materia Medica* in especial, every statement, we might almost say every line, should receive the careful attention of the author himself.

On the whole, however, we must record our fullest approbation of Dr. Royle's second edition, as constituting not only a handbook for the student, but a work of reference for the practitioner; and we cordially concur in the author's "thanks to the publisher, as well as the printers, for the elegant and clear typography, and Mr. Bagg for the skill and taste he has displayed in the woodcuts."

## PART III.

### MEDICAL MISCELLANY.

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TRANSACTIONS OF THE ASSOCIATION OF THE FELLOWS AND LICENTIATES OF THE KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.

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SESSION 1852-3.

FIFTH MEETING, MARCH 2ND, 1853.

THE Secretary read a paper communicated by Dr. Gason, of Pisa (Licentiate of the College), containing some physiological investigations by Dr. Malaguti, on the intermediary nerve between the portio dura and portio mollis<sup>a</sup>.

PROFESSOR MONTGOMERY read an essay on double monsters, illustrated by a very remarkable case<sup>b</sup>.

DR. CHURCHILL read a paper on the rhythm of the foetal and infantile heart<sup>c</sup>.

SIXTH MEETING, APRIL 6TH, 1853.

DR. LEES described a case of medullary cancer of the liver undergoing the suppurative process<sup>d</sup>.

PROFESSOR OSBORNE, after having briefly described two cases of long-protracted disease of the right lung, with cavities at the apex, hemoptysis, and most of the symptoms of tubercular phthisis, but yet affording sufficient diagnostic marks of being really cases of cir-

<sup>a</sup> Published in the Dublin Medical Press, vol. xxix. p. 373.

<sup>b</sup> Published at length in the Dublin Quarterly Journal of Medical Science, vol. xv. p. 257.

<sup>c</sup> Published in the Dublin Quarterly Journal of Medical Science, vol. xv. p. 487.

<sup>d</sup> Published at length in the Dublin Quarterly Journal of Medical Science, vol. xvi. p. 40.



rhosis, as the sequel proved, requested the members present to state their views as to the most available means of establishing the diagnosis between tubercular phthisis and cirrhosis. Hereupon an interesting discussion ensued, in which several important cases and observations were elicited.

DR. RINGLAND gave the following notice of a case which he thought possessed one point of special interest, as it proved the efficient agency of a single medicine; for, as it was treated throughout by but one remedial agent, there was not any difficulty in coming to a conclusion as to the specific drug which produced the beneficial effect, whereas much doubt upon this point must of necessity exist wherever a variety of medicines is employed either consecutively or in combination.

Early in April, 1852, he was called to see a young lady, a governess in a large public school, within a few miles of Dublin. Owing to the nature of the school, her daily avocations were of a most active and fatiguing character, requiring her during school-hours to be constantly on foot; but it had been remarked by the heads of the establishment, about eighteen months prior to the date already specified, that she had become languid and totally unable to move about as before, being obliged, in consequence of debility, to occupy a chair at all times during the day. At this time menstruation, which had previously appeared at the customary periods, had become irregular as regarded time, and deficient in quantity, whilst a sanguineous discharge, at first in small quantity, and at long intervals, came from the intestines. In consequence of these symptoms she consulted the late Mr. Collis, but, despite the judicious treatment employed by him, the menses had diminished, and, finally, had altogether disappeared, while the discharge of blood from the alimentary canal had rapidly increased in quantity, and the periodic intervals had become less and less.

When Dr. Ringland saw her, which was in consequence of the death of the lamented gentleman previously named, he found her in bed, lying on her back, quite collected, but perfectly blanched, and almost pulseless; countenance sunk; tongue protruded with difficulty and with a tremulous motion; extremities cold; and a cold clammy sweat over the whole body, but especially on the head and neck. Intense vomiting every few minutes added to the urgency of the other symptoms. On inquiry he learned that, prior to his being sent for, she had lost, as far as could be conjectured, at least a pint of blood from the bowels, and that a quantity but little less had been similarly discharged every ten or twelve days during several previous weeks. The symptoms were so urgent, especially the vomiting and general prostration, and the distance from any apothecary so considerable, that he at once gave her four drops of creasote, the only suitable remedy at hand, dissolved in a teaspoonful of brandy, and at short intervals small quantities of brandy and cold water. At the same time warmth was applied to the extremities, and

cloths saturated in cold vinegar and water to the perineum and nates. He was much pleased to find that the creasote had remained upon the stomach; also that, after two hours, the hemorrhage from the intestines had almost ceased; that the pulse, though still shabby, had slightly improved; and that there was a slight return of heat to the extremities. Encouraged by the result, he, after a further delay of two hours, administered four drops more of the creasote, and, prior to leaving for town at 11 o'clock, P.M., he ordered one-half that quantity to be repeated every fourth hour; he also directed that one table-spoonful of brandy and cold water, and two table-spoonfuls of cold chicken broth, should be given alternately every half-hour.

On the following morning he found that there had been no return of the vomiting, and that the hemorrhage had entirely ceased; her countenance was much improved; the heat of the body natural; and her pulse 120, but soft. He then examined the state of the rectum, conceiving that there might be some local disease existing there which could account for her condition, but he found it perfectly healthy. The creasote was repeated in two-drop doses every sixth hour, and the brandy and cold water and the cold chicken broth continued.

Some days afterwards she was put on bark and the mineral acids, and subsequently on iron. Under this treatment she rapidly amended, and was able to leave her bed on the fourteenth day from the attack, and to resume her duties in the school in about two months. There was no return of hemorrhage from the intestinal canal until after the lapse of about three months, when she had again a slight attack; and in about three months subsequently, there was a second recurrence, but since then she has not had any return of it. On both these occasions the creasote was again had recourse to, and with equal benefit. Within the last six months menstruation has re-appeared two or three times, with great irregularity, however, and in but small quantity. In a letter from her, written within the last few days, she states that her health is in all respects much improved.

PROFESSOR OSBORNE mentioned that he had been lately led to use tannic acid for the destruction of tape-worm by several considerations, and especially from its action on gelatine, as well as on albumen. Having ascertained in the usual way the presence both of gelatine and albumen in these parasites, it is to be inferred from analogy that the former is in their integuments, and if so, that in tannic acid we have the desideratum of an agent acting chemically on the worm, but not irritating the stomach or bowels of the patient, and, moreover, capable of being retained long enough to produce its full effect. He stated that in the cases of two patients whom he had under this treatment, the appearance of the ejecta indicated that the worms had suffered from a chemical irritant, being in some instances curled and contracted, and in others friable and broken down, when expelled by a purgative. However, not wishing to fall into the



common temptation of overvaluing a remedy because it was of his own devising, he refrained from any further observations until he should have witnessed its effects on a sufficient number of cases, when he hoped to be able to lay the results before the Association.

#### SEVENTH MEETING, MAY 4TH, 1853.

DR. M'CLINTOCK communicated the general results of a series of observations upon infants under a week old, made with a view to ascertain the average frequency of the pulse at this period of life. He commenced by stating that it was through the very great kindness of Dr. Shekleton, the Master of the Lying-in Hospital, and of Dr. Sinclair, one of his assistants, that he was enabled to bring these facts before the Association, as the former had permitted, and the latter had assisted him, to make a very large proportion of the examinations in the wards of that institution. The total number of these examinations was considerably above 200, made upon 140 children. These were all apparently healthy infants, and, as already stated, were under a week old. The same mode of ascertaining the rate of the pulse was pursued in all, viz., stethoscopic examination of the heart. In doing this it is very seldom necessary to strip the child; and the cardiac sounds can be detected as well on the posterior as the anterior part of the chest,—so that whether the infant be lying on its face, right side, or back, the desired object can very generally be obtained. With a view to remove, if possible, all source of error, these examinations were conducted under different circumstances, as regarded the subjects of them, viz.—first, when asleep; second, when awake, but quiescent; and third, when crying, or excited; and a distinct record was kept of each of these separate observations. The results were as follows:—

CLASS I.—Of 84 healthy infants, of both sexes, examined during natural sleep, the pulse was:—

In	2 instances under	90		
—	5	„	between	90 and 100
—	31	„	„	100 „ 110
—	17	„	„	110 „ 120
—	22	„	„	120 „ 130
—	4	„	„	130 „ 140
—	3	„	„	140 „ 150

The mean rate of pulsation of all the instances belonging to this class is 109. This figure Dr. M'Clintock believes to be rather above the truth. For in rigid exactness some of the observations in this class ought not to have been included, as the children, though asleep, were more or less disturbed, and the circulation consequently excited. The experiments of Billard, also (alluded to further on), so far as they go, strengthen the belief of this being too high an average.

CLASS II. includes 51 different infants auscultated when awake,

but in a calm and tranquil state. Of these the rate of the pulse was:—

In	2	instances below	100		
—	8	„	between 100 and	110	
—	15	„	110	„	120
—	15	„	120	„	130
—	7	„	130	„	140
—	4	„	140	„	150

The mean of all these observations is 118, thus showing a rise of *nine* beats in the minute above the rate of pulse as observed during sleep. It must be stated, however, that this can only be regarded as an approximation to the truth, since the same qualification is necessary here that was applied to the average of the former class. Moreover, this second class embraces also a less extended range of cases; the cause of which is simply the difficulty of getting children so very young to remain perfectly quiet during the necessary examination of the heart.

CLASS III. comprises 74 children who were auscultated whilst *crying*, which may justly be considered as the highest state of physical excitement in a healthy infant. The greatest frequency of pulse amongst these children was 180, and this was in an infant just born and separated from the mother (an hour afterwards, when asleep, its pulse was only 104). The slowest pulse in this range was 120, whilst the mean deduced from the entire number is 146; thereby showing a rise of 28 over the second class, and of 37 over the first class.

In the course of this investigation (which Dr. M'Clintock intends prosecuting much farther, as he considers it to be far from complete), some interesting, though not unexpected facts, were observed. Thus there would seem to be a very striking accordance between the temperament and circulation of the child. Cross, irritable infants, who evinced a propensity to cry on the most trivial occasions, invariably had a pulse above the average rapidity; whilst the examples of, comparatively speaking, slow pulse were all placid, contented children, that gave little trouble, and whose equanimity and good humour were not easily disturbed. Again, it was repeatedly the subject of remark what apparently slight causes acted upon the pulse, suddenly and notably quickening its beats. This was found to be the case not only when the child was awake, but also during slumber. The slightest disturbance of the body, even the movement of a limb, a passing smile, or contortion, was almost instantaneously followed by a temporary increase in the rapidity of the heart's pulsations. Such a result is only what might *à priori* have been looked for, being strictly accordant with the known exquisite sensibility of the nervous system at this initial stage of life. Careful and repeated observations on a very large number of cases have convinced the author that this very excitable state of the heart exists also *before birth*, and that the movements of the foetus



in utero have the effect of transitorily increasing the frequency of the cardiac sounds, so much as 5, 6, or even 7 beats in the quarter minute. One consequence of this extreme sensibility of the heart and vascular system is, an apparent irregularity of the pulse,—its rate of velocity seldom remaining the same for many consecutive minutes. Another effect is, that it presents a considerable difficulty to forming a correct estimate of the normal rate of the circulation in very young children. It is highly probable that if this source of fallacy could be entirely avoided, we should find that the difference between the frequency of the pulse in the adult and the infant is by no means so much as is laid down by authors, and believed by practitioners. Billard's researches in connexion with this subject have already been alluded to; as he appears to be the only author who has made any statistical investigation on the point in question, his general results are here quoted. In *forty* infants, aged from one to six days, and in apparently good health, he found the pulse below 80 in *eighteen* instances; in *two* it was 86; in *one* 89; in *four* it was 100; in *ten* from 110 to 125; in *one* it was 130; in *two* 145; in *two* more 150; and in *one* so high as 180. These figures yield a mean of about 100, which, it will be remarked, is considerably below the lowest average given by Dr. M'Clintock. It is to be regretted that Billard does not state under what circumstances his examinations of the children were made, since this, as Dr. M'Clintock has endeavoured to show, exercises a material influence upon the numerical results.

There is one general conclusion which may be safely drawn from the above facts, and it is this, that the frequency of the circulation is very considerably *less* after birth, than it is during intra-uterine life. What the mean rate of frequency of the foetal pulse is at the full term of gestation has never, it is believed, been fixed by statistical data; but, from a large number of recorded observations now before the author, as well as from the impression which an extended experience in obstetric auscultation has forced upon his mind, he would lay down 132 as about the fair average.

DR. LAW read the particulars of a case of spinal irritation, in which large doses of morphia had been administered.

Dr. LEES detailed the particulars of a case of chronic vomiting, in which enormous quantities of a highly acid, barm-like fluid were ejected from the stomach, and which presented under the microscope numerous specimens of sarcini. The urine passed during the same period was alkaline, and deposited a copious precipitate of phosphate of lime and triple phosphate.

DR. H. KENNEDY read a paper on slow pulse in fever<sup>a</sup>.

<sup>a</sup> Published in the Dublin Quarterly Journal of Medical Science, vol. xvi. p. 299.

EIGHTH MEETING, JUNE 1ST, 1853.

DR. FRAZER read the following abstract of a case of rheumatic ophthalmitis:—In the spring of 1850 I was sent for, about 8 A.M., to visit a poor fellow, twenty-two years of age, who was suddenly attacked on the previous morning with acute rheumatism in his ankles and knees, attended with vomiting. When I saw him, his face was flushed and dusky, his mind inclined to wander, his voice hoarse and laryngeal, both his ankles, his right knee, right great toe, and one wrist very painful, swollen, and pinkish; his pulse was weak, varying from 130 to 140; tongue densely furred, and rather dry; surface warm and sweating; the bowels over free, having acted three times during the night, and he was still rejecting everything from his stomach. About a month previously he had an attack of delirium tremens, complicated with pleuropneumonia, at the termination of which I saw him for the chest affection, when he had the usual symptoms of pleuritic effusion, with pain in the side and feverishness. Treatment removed the effusion and distress of breathing, but he refused further care, and resumed his studies and excesses, although fully one-third of the right lung was more or less solid. When examined now, the pneumonia was gradually found resolving. He had taken punch to excess on the night previous to the rheumatic attack commencing, and on the day of its occurrence used freely both wine and porter, and early in the morning, before sending for me, had been drinking port wine, although he was ejecting it as he took it. I directed pills with colchicum and small doses of opium, of which he took only one, and soon after left his bed, and was found on the floor insensible, frothing from his mouth and working in convulsions, his face and hands being livid. He was removed to bed, and shortly had another severe epileptic attack. I saw him two hours from this time, when he was drowsy, and wandered much when spoken to, saying he had slept well and got all right. Saline draughts were substituted for the pills. During the day he was greatly excited, at one time leaving his bed and bolting his attendants out of the room.

2nd. Next day his stomach was easier, the bowels had acted three times, and he had perspired much; the pains in his lower limbs were less, but his wrists, right elbow, a bursa on the right fore-arm, and the left shoulder were swollen and painful; he got small doses of colchicum and magnesia, and was again rather delirious in the course of the day.

3rd. Last night he sweated so profusely as to wet four shirts; the pains in his shoulders were severe, and he had still a tendency to romance, and was anxious to get out of bed; his pulse had fallen to 100, his tongue was cleaning, and his voice was laryngeal. Towards evening herpes appeared extensively over his lips and chin, but his mind continued disturbed, and he was most anxious to obtain porter. Being concerned about him, I did not leave his bedside until near twelve that night, when he had fallen asleep.



4th. He, however, woke up at 1 A.M., with a feeling of sand in his left eye. This increased in uneasiness until it amounted to severe pain in the eye and temple, and his vision became very dim. When I saw him at 7, A.M., I found that he had just applied some leeches to his left temple, which he had insisted on his attendants obtaining. The conjunctiva had a few wandering red vessels over it; there was very little sclerotic redness; the anterior chamber was quite hazy; the pupil oval, contracted, and drawn towards the lower and inner angle of the eye; the iris was of a dusky yellowish brown (being naturally light brown), and considerably thickened and uneven on its surface; his vision was very imperfect, so that he was hardly able to see outlines or to distinguish faces. His mind was less flighty; he had perspired, although not so freely as on the previous night, but his right elbow and left shoulder continued very painful. Mercurials were exhibited with a little colchicum, and stupes and belladonna employed externally. At 10, P.M., that evening, the pupil was dilating, though most irregularly, under the influence of the belladonna; he complained greatly of pain in his eye-ball, and vision was nearly destroyed; he could hardly distinguish light from darkness, or perceive the flame of a candle; the fluid of the anterior chamber appeared opaque, and the iris much thickened.

5th. Rested well during the night, after stuping his eye; its general appearance was worse this morning; there was more conjunctival vascularity, and the conjunctiva was elevated by a yellow chemosis, as if lymph exudation had occurred between it and the sclerotic; shreds of white coagulated lymph floated in the aqueous humour, and adhered like bits of fine thread to the back of the cornea, and above and below where the iris and cornea join; solid portions of exudation were being deposited. The rheumatic pains were now chiefly confined to his right shoulder and wrist. A few leeches were applied round the eye, and treatment continued.

6th. The chemosis and vascularity of the conjunctiva had increased, and the exudation in the anterior chamber was greater in quantity, but the pain had decreased since yesterday. His right wrist was much swollen, and the hand displaced to the ulnar side from effusion in the joint, causing severe pain in the ligaments: general symptoms improved. A few leeches were again applied, and a blister behind the ear; stupes and treatment continued. I now had the benefit of Dr. Hutton's advice in this case.

7th. Slept better. From this time the pains gradually subsided, so that in three or four days all swelling had disappeared from his joints, and in a week he left his bed. The effusion of white coagulated lymph continued to progress for a few days, and then all the anterior chambers being blocked up by it, the vascularity and chemosis began to diminish. Mercury was continued for some time, and blistering behind the ears and to the temple, and afterwards he was directed to take iodide of potassium and decoction of cinchona.

On the 14th the iris was becoming visible all round its circumference, but a mass of pale exudation filled the centre of the eye,

projecting from the anterior surface of the lens, passing through the pupil, and reaching to the back of the cornea. I may mention that this morning I again found a wine-bottle at his bed-side.

In about a fortnight more all the exudation had nearly disappeared, the pupil was large and irregular, and the inflammation of the conjunctiva had greatly decreased while using eye-drops of *vinum opii*. In another week an issue was directed to be inserted in his temple, and cod-liver oil was given internally, with small doses of the oxymuriate of mercury. He went to the country, and I saw him at intervals afterwards. The iris, and indeed the eye generally, resumed in every respect its natural appearance, but he never recovered his vision, being barely able to distinguish light from darkness with the affected eye. As far as I could learn he never had been subject to epilepsy previous to this attack, nor did it recur afterwards.

PROFESSOR OSBORNE stated that he had lately, in three cases, opportunities of observing a peculiar effect of chloroform taken into the stomach, in controlling the depressing and saddening feelings belonging to hypochondriasis. Considering that state to be produced by a depraved sensibility of the stomach or colon, and frequently of both, he was led to the internal employment of chloroform, which, being promptly volatilized at the temperature of the stomach and before being decomposed by the process of digestion, ought to be expected to act as a local anæsthetic, even though the dose should not be sufficient to produce any change in the function of the brain.

The first patient who presented the conditions requisite for this experiment was a married woman, and a mother, aged 33, of a querulous disposition, as was well marked in her countenance, and who had been on a former occasion under his care and that of another practitioner, complaining of a variety of pains in the abdominal region; and she, although relieved, yet persevered in the belief that she still had some internal disease. She now appeared to labour under spinal neuralgia. After this had yielded to the application of nitrate of silver to the spine, and some other remedies, she still continued to feel an indescribable sensation of depression, and of internal annoyance, no longer to be referred to the spinal nerves;—no cause for it could be detected. The appetite was good, and the action of the bowels regular. In two days, after taking ten drops of chloroform thrice daily, she *began, for the first time, to acknowledge that she was better*, and in a few days afterwards was free from complaint. The second case was that of a caretaker in the Linenhall, aged 29. He complained of the deepest dejection of spirits, and of an uncontrollable aversion to make any exertion. His countenance expressed sadness and moroseness. All the functions were in a healthy state, except that the heart's action became tumultuous when excited either by emotion or exercise; but no organic disease could be detected. He stated that he had not been addicted to excesses of any kind, and that there was no cause for



his lowness of spirits. He got valerianate of zinc, and also pills to regulate his bowels; but although the heart's action became steadier, yet the depression and inward sensation continued the same. After taking twenty drops of chloroform thrice daily for two days, *he began to confess*, what he never did before, *that he was better*. His sleep being still unsatisfactory and disturbed by disagreeable dreams, he was ordered to take forty drops at bed-time. He now stated that he slept with a pleasing dream of seeing his brother, who had gone to America. During the two following nights he took the same dose; and, although his sleep was interrupted by the disturbance attendant on a man in a dying state in the same ward, yet when he did sleep his dreams were pleasant, being usually that he was enjoying the company of the most agreeable of his friends. He was dismissed with a marked improvement in his countenance, and *acknowledging that he was better*.

The third case was that of a farmer from the county Wicklow, twenty-eight years of age. In him the poet's exclamation, *Beati agricolæ!* appeared to be completely reversed. The angles of his mouth were drawn down, his brow generally contracted, and he appeared sometimes as if contemplating suicide; yet he stated that he was in comfortable circumstances, married, and with a family. He complained of an inward sinking and sense of depression, so constant and overpowering, that for some months he could not command himself to make any exertion, and had become unable any longer to attend to his business. His bowels were usually torpid, but although he had repeatedly taken purgative medicines with effect, yet he had obtained no further benefit. A careful examination having been made without detecting any disease, he was ordered to take ten drops of chloroform thrice daily, and two assafœtida pills every alternate night. At the end of about four days of gradual improvement his countenance had become placid. *He confessed that he felt much better*; and in a few days afterwards, feeling a strong desire, and also a capability, of resuming his ordinary avocations, he went home.

These cases are selected as being nearly free from complication. It must, however, be recollected, that there are several other uses to which chloroform may be applied in affections of the stomach and intestinal tube, but this appears to be one of the greatest value, inasmuch as no other medicine can be named which in this respect seems to come into competition with it. How far the effect is permanent and capable of completely removing the sensation of hypochondriasis, or in what degree it may require to be resumed or repeated, Dr. Osborne as yet has not been able to determine; neither did he think it necessary before this Association to clear himself from the absurdity of bringing it forward as a universal *nepenthes*. Like all other agents affecting the nerves of sensation, its potency must vary much in different individuals, requiring various doses, while in some cases it may fail altogether.

With regard to the mode of administering chloroform internally:

—as its specific gravity is nearly 1·5, and it is insoluble in water, it must, when swallowed, soon settle at the bottom of the fluids in the stomach; and although it is volatilized, yet being covered, and under pressure, it may remain in contact sufficiently long to irritate the stomach at the part of contact, as was proved to take place in the case of camphor by Orfila. Hence, then, it is desirable that it should be diffused or diluted before it is taken. In aqueous mixtures, even when shaken up, it soon falls, so that it cannot be equally measured out, and its pungency is annoying even to the mouth. In gum Arabic mucilage it soon collects in large globules at the bottom of the bottle, covered with a white powder of arabine which it has precipitated. To obviate this inconvenience it has been proposed to give it suspended in syrup, but to make a syrup of the same specific gravity 1006 grains of sugar to the ounce of water would be required, while that of the Pharmacopœia contains only 874 grains; besides chloroform has a heavy sweet taste which renders the addition of syrup peculiarly objectionable.

The menstruum which Dr. Osborne used in the above and other cases was the decoction of Irish moss (carrageen). With this chloroform forms a uniform mixture, and in the proportion of ten drops to the ounce they remain for an indefinite time without separation taking place. The taste of the mixture is sweet like that of a heavy syrup, to relieve which it may be well to add a few drops of some aromatic or bitter tincture.

Another mode of avoiding the pungency of chloroform is by giving it in combination with tinctures, as it is soluble in alcohol, and remains dissolved even in proof spirit. The following is a specimen of this kind of formula, and is peculiarly grateful to the taste, and susceptible of various additions and alterations, according to the requirements of individual cases:—Chloroform, and tincture of ginger, of each half an ounce; aromatic spirit of ammonia, two drachms. Mix. Twenty-five drops to be taken thrice daily in a wine-glassful of milk.

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## PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.

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THIRTEENTH SESSION.—1852-53.

*Purulent Cysts in the Heart.*—Dr. Banks exhibited a heart taken from the body of a girl aged 13, who had been admitted into Sir Patrick Dun's Hospital on the 7th of the present month, having been ill for a fortnight. She complained of extreme difficulty of breathing, and uneasiness in the chest; she had great irritability of the stomach, everything being rejected almost the moment it was



swallowed; the face was flushed, and of a dusky colour, and there was œdema of the lower extremities; the pulse was rapid. On examining the heart, no abnormal sounds were heard; the base of the left lung was dull on percussion; there was some crepitus, and bronchial râles were audible over the greater part of the chest. She said she had had spitting of blood before coming to the hospital, and from the period of her admission up to the sixth day, on which she died, hemoptysis occurred whenever she coughed. The symptoms present at the time of her admission quickly increased in intensity: the lungs became more congested; the breathing more difficult and rapid; the pulse attained an extraordinary degree of rapidity. On one occasion, Dr. Duncan (under whose care the patient was) counted it up to 240 in a minute. The œdema increased; the surface of the body became generally anasarcaous, but there was no ascites, nor any fulness in the region of the liver; the urine was scanty and high-coloured, but contained no albumen; there was a slight icteroid hue.

*Autopsy.*—Large masses of extravasated blood were found in the lungs at their bases, more especially on the left side; both lungs, throughout their whole extent, were congested with blood, but did not contain any tubercles; the spleen was remarkably smooth, and the liver presented a good example of what is called the nutmeg-liver, with biliary congestion; the heart presented no traces of valvular disease, but in the interior of the left ventricle small cysts were found imbedded between the fleshy columns; and on expressing their contents, and submitting them to microscopical examination, pus globules and broken-down granules were discovered. One as large as a pigeon's egg was found in the right ventricle.—*April 16, 1853.*

*Tumour removed from the Mammary Region.*—Dr. Fleming presented a tumour which he had lately removed from the mammary region, and gave the following history of the case:—

The patient was a married lady between forty and fifty years of age; she had never any children; she enjoyed excellent health; twelve years ago she had a tumour of the breast, which was removed by Sir Astley Cooper. Four years afterwards another tumour formed in the same situation, and was excised by Mr. Aston Key. Within the last six months a third appeared above the natural situation of the nipple, and nearer to the sternum than to the axilla: the skin did not adhere to it, and it could be moved upon the pectoral muscle. An incision was made over it by Dr. Fleming, when it was readily removed by the finger. It was invested by a capsule, and in appearance and structure strikingly resembled the chronic mammary tumour delineated by Sir A. Cooper; under the microscope it exhibited no character of malignant disease. In some features it resembled the sero-cystic tumour described by Sir Benjamin Brodie, but the greater portion of it was quite solid, and, as it were, made of a number of smaller tumours. Dr. Fleming referred to a

similar case which he had brought before the Society in the session of 1846.—*April 16, 1853.*

*Hepatic Abscess.*—Dr. Banks detailed the following case, and exhibited the specimen:

A man, aged 50, was admitted into the Hardwicke Hospital on the 5th of April. He was a clerk in a mercantile office, and of intemperate habits. He had never resided out of this country, and had been tolerably healthy up to a recent period. On my seeing him upon the day after his admission, there was an abundant herpetic eruption about the mouth, top of the head, and back of the neck. Recollecting the frequency of the occurrence of herpes in connexion with pneumonia, I at once, of course, suspected its existence in this case, and on examination I found the base of the right lung dull, with crepitating rales. He was in a very low condition, his pulse rapid and feeble, with a look of prostration about him which made me form an unfavourable opinion of his case. On the 7th, the second day after his admission, he had a rigor for the first time. There was some fulness about the region of the liver, and some slight tenderness on pressure. On the 9th he had another rigor, which lasted, like the former, for three or four hours. The pulse was 120, and now for the first time a slight icteroid hue was perceptible, the conjunctiva being tinged, and the surface of the body slightly yellow. The urine had been natural and clear; it was now dark, and contained an abundance of the lithates. On the evening of this day he declined very much, and became exceedingly weak. On the morning of the 10th he rallied, and said that he felt much relieved; the lung appeared to have undergone a favorable change. On the 11th he was again, however, seized with rigors. He died on the morning of the 12th, after a severe and prolonged rigor. The jaundiced hue of the skin, and the repeated rigors, together with the improvement in the state of the lungs, caused me to suspect the existence of abscess in the liver; there had been no diarrhoea or dysentery.

*Autopsy.*—The base of the right lung was congested, and both lungs were slightly emphysematous; the spleen was like a mass of jelly, and broke down on the slightest touch.

On examining the liver, we found several small abscesses, and one of considerable size, and deeper than the others, and in the neighbourhood of the abscesses there was a diffused suppuration, and great congestion of the organ. There had been very few special symptoms in this case.—*April 16, 1853.*

*Pericarditis, subsequent to Rheumatic Endocarditis.*—Dr. M'Dowel exhibited a heart which illustrated the pathology of repeated attacks of pericarditis, and gave the following history of the case:

A boy, twelve years of age, first came under my observation three years ago, for a very severe attack of acute rheumatism. At this time there was no evidence of the pericardium having been en-



gaged. A year afterwards he became again a patient of mine for chorea. There was now a loud systolic bellows murmur over the apex of the heart, which indicated incompetency of the mitral valves; there was likewise evidence of hypertrophy of the heart. This boy once more was admitted under my care into the Whitworth Hospital, in the end of March, 1853. He was now suffering much from difficulty of breathing; he had frequent cough, lividity of the lips, and intense dyspnœa, amounting to orthopnœa. A rough, grating, friction sound, which was felt as well as heard, existed over the pericardial region; the heart was much enlarged, and both lungs were congested inferiorly. There had been no hemoptysis or dropsical effusion. He died April 13th.

*Post-mortem Examination.*—There were six ounces of blood in the pericardium; the heart was excessively enlarged. This was chiefly due to dilatation of its left chambers. The mitral valves were opaque and thickened; the cords were hypertrophied and shortened; the posterior division of the valve scarcely existed; the opening was much dilated, and the valves insufficient to prevent regurgitation.

The pericardium presented evidence of having been the seat of repeated attacks of pericarditis. On both serous surfaces lymph was deposited in successive layers, so as to be in some places at least three-quarters of an inch in thickness. The outer layers were in some places soft, and could be easily detached, whilst below lay lymph of very firm consistence; around the base of the heart there were adhesions of old standing, the bands of lymph being very firm, and in some situations half an inch in length. The apex of the organ was free. The entire surface presented the utmost irregularity of form, and hence the roughness of the friction sound. The lower lobes of both lungs were solidified.—*April 16, 1853.*

*Fractures of the Pelvis.*—Dr. Fleming exhibited a series of specimens of fractures of the pelvis. In the first one which he described, the patient was a man aged 30, upon whom a large bank of earth had fallen. He was brought at once to the Richmond Hospital, and died within thirty-six hours after the occurrence of the accident. The chief symptoms during life were those of extreme collapse and internal hemorrhage; the pulse could scarcely be felt, the face was pallid, and the surface cold. The perineum, scrotum, and penis were distended with blood, and he had a constant desire to pass water. A catheter was introduced, and some bloody urine was drawn off, though it was not certain that the instrument had entered the bladder. Upon examination *post mortem*, a large quantity of effused blood was found in the hypogastric region, between the abdominal muscles and the peritoneum, and passing down into the pelvis on each side. The bladder was found torn from the urethra, and an instrument now introduced was found not to reach the bladder, but to enter a large cavity filled with blood, corresponding

to the seat of laceration. The pubis and ischium were broken upon both sides.

The second case was that of a young child who had been violently thrown down by a furniture van, and was brought to the hospital shortly afterwards, suffering from severe pain in the pelvis, and great desire to pass water. His parents would not leave him in the hospital that evening, and next morning it was reported that he had suffered great agony all night throughout the whole of the lower part of the abdomen, and that the desire to void urine had been incessant; he could not bear to be touched in the hypogastric region, yet there was no external sign of contusion. The other symptoms were those of collapse. The child survived the accident for five or six days. Upon several occasions the catheter was introduced, and each time about four ounces of urine drawn off, unmixed with blood, nor did the child at any time pass bloody urine, and yet the post-mortem examination showed that the bladder had been wounded. Upon the right side, the horizontal ramus of the pelvis was broken, the fracture passing very obliquely downwards and outwards, and the sharp extremity of the external fragment perforating the corresponding portion of the right side of the bladder, and wounding, but not transfixing the opposite wall of the organ; the ascending ramus of the ischium was also broken. There was a considerable quantity of blood effused into the pelvis, external to the peritoneum, but no urine appeared to have escaped from the bladder, and there was no trace of general peritonitis, but in the vicinity of the wound the bladder had become adherent to the adjoining texture.

The third specimen exhibited by Dr. Fleming was taken from the body of a woman aged 36, who, along with several other people, had been injured by the falling of the house in which they resided. They were all brought to the hospital, and admitted under the care of Professor Smith. Two of them had sustained fractures of the pelvis; in one of them the body of the ilium was broken through. This case terminated favourably, but in the other case, the woman died in six days. She had no peritonitis, nor were any of the pelvic viscera injured; there was no hematuria; she seemed to die from the effects of hemorrhage into the pelvis, in which an immense quantity of blood was found after death. There was a comminuted fracture of the pubis and ischium upon each side, and upon the left side the ilium was broken close to the sacro-iliac symphysis.

Dr. Fleming, in conclusion, alluded to another case of injury of the pelvis that had lately been in the hospital, under Professor Smith, and which had a favourable termination. The patient was a young child, over whom the wheel of a cart had passed; one labium was extensively lacerated, and the ossa pubis separated from one another at the symphysis for a distance of nearly an inch and a half. The child recovered without the occurrence of any very serious symptom.—*April 23, 1853.*



*Plastic Bronchitis.*—Sir Henry Marsh exhibited a recent specimen, and a drawing illustrating the affection which has been termed bronchial polypus, and gave the following history of the case. The patient was a man aged 52, of small stature and delicate appearance; he had been subject to bronchitis for five or six years. Five years ago he had an attack of hemoptysis, of so severe a nature that his life was for a time despaired of. He has since then had two or three attacks, which were, however, comparatively slight. His pulse is accelerated, but he has no well-marked hectic. Examination with the stethoscope showed that a tubercular deposit occupied a considerable portion of the apex of the right lung. He has a very distressing cough, the paroxysms of which are sometimes so severe as to induce nausea and vomiting. He has on several occasions expectorated masses of lymph of various sizes: that which I now exhibit to the Society, and which is of considerable dimensions, and moulded to the form of the air-tubes, was expectorated with comparatively little difficulty: it was of an intensely red colour, in consequence of its surface being covered with blood.—*April 23, 1853.*

*A Semilunar Valve of the Aorta dilated into a large Pendulous Pouch containing two Large Openings.*—Dr. Law exhibited what he considered a very interesting and novel specimen of cardiac pathology, consisting in a remarkable dilatation of one of the semilunar valves of the aorta, which formed a pouch that hung down into the ventricle. It might almost be designated an aneurism of the valve, especially as it was found to contain a coagulum. The structure of the valve was greatly attenuated, and exhibited two very large perforations. The pouch, with its thin walls and two openings, bore a very close resemblance to the end of the finger of a leather glove worn so thin as to give way, and to get into nobs. Dr. Law regretted that his details were necessarily very imperfect, as the subject of the case was almost moribund at the time of his admission into Sir Patrick Dun's Hospital under Dr. Osborne's care. The patient was John Flynn, aged 34, reported to have enjoyed good health till about eleven weeks before he was received into hospital. His symptoms on admission were, extreme distress, which he referred to the region of the heart, and the most urgent dyspnœa; he had universal dropsy. There was a distinct double murmur heard behind the sternum; the murmur was propagated along the arteries; the impulse of the heart was not strong, nor had the pulse at the wrist the full jarring character which it usually has in aortic valve disease, of the existence of which lesion Dr. Law had no doubt on account of the double abnormal sound behind the sternum. He exhibited a markedly pallid, anemic appearance. His friends reported him to have been in good health until his present illness, which came on quite suddenly. It began with a feeling of great distress and suffering in the situation of the heart; his breathing was very much oppressed; he had he-

moptysis, but to no great extent. The dropsy came on very early in his illness. He only survived his admission into hospital four days. No means employed afforded any relief. Dr. Law, in exhibiting the pathological specimen, expressed his belief that no exactly similar one had before been submitted to the notice of the Society. Specimens of perforations of the valves of the aorta had been exhibited, but these perforations were so small, and situated so near to the free edges of the valve that they were closed by the edges of the other valves, and so did not compromise the functions of the affected one, or admit of regurgitation, and therefore did not give rise to the ordinary signs of aortic valve disease.

Dr. Law only wondered that the lesion was not more common when the function of these valves was considered, having to sustain the weight of the column of blood. The pathological state of the valve in the specimen now exhibited consisted in an extreme atrophy or wasting of it, causing it to be elongated, and to give way under the weight of the superincumbent blood. The part that had not yielded was extremely thin, and almost diaphanous. An opposite condition of these valves, consisting in a thickening and contraction of them, was what was most frequently met with; nor was it generally hard to account for this alteration in them, being most commonly a part of either endocarditis or carditis. But in the present case there was nothing in the general condition of the patient, nor in the state of the organs of the circulation, calculated to throw any light upon the cause of the lesion. Dr. Law believed that the disease did not exist until the patient was made aware of it by the sudden seizure of præcordial oppression and dyspnœa, that is, that the valve had not given way till then, although the atrophy of the valves may have been going on insidiously for a considerable time before. And the reason he assigned for his conviction of this recent date of the injury to the valve that affected its function, was the slight degree of hypertrophy and dilatation the ventricle had undergone, which is ever a measure of the extent and duration of aortic valve disease. Dr. Law here exhibited, by way of contrast, a specimen of aortic valve disease in which the valves were very much thickened and shortened, and in which the valves of the left ventricles of the heart were enormously thickened, and its cavity much enlarged. The case was one of long standing. Dr. Law omitted to notice that a fibrous clot filled the pouch formed by the elongated semilunar valve, and constituted part of one which occupied a considerable portion of the left ventricle, but this, he conceived, had formed shortly before death, and was probably the cause of the extreme præcordial distress, which was the most urgent symptom in the last hours of the patient's life.

Dr. Law remarked upon the early appearance of dropsy, and of hemoptysis in the present case, phenomena which he thought were explained by the nature and extent of the lesion of the valve. In ordinary cases of aortic valve disease, these two phenomena do not generally occur until the disease has existed for a considerable time,



and nature provides for the increased duty imposed on the ventricle to sustain the blood returning into it through the imperfect valves, by an increase of its muscular structure and consequent increase of power and energy. And this provision does meet the emergency for some time. But a time arrives, different in different cases, and this often accelerated or retarded by the treatment that may have been adopted in the case,—accelerated if a lowering, depressing treatment have been adopted; and retarded if an opposite mode of management have been used,—but in almost all cases a time does arrive when, from the progress of the disease, the ventricle loses its power and becomes the seat of congestion, against which it can no longer strive. This congestion of the ventricle then gives rise to congestion of the corresponding left auricle, and so the lungs become congested, and then the hemoptysis and the dropsy ensue; phenomena that appear so much earlier in mitral valve diseases but which result from the same cause in both cases. Dr. Law remarked that, in his case the extent of the valvular disease, and the suddenness with which it had come on, had effected what in most cases required considerable time to effect,—the disabling the ventricle to sustain the returning blood, for which it had not been prepared, as in chronic cases, by a gradual hypertrophy of its walls. This case illustrated what the pathologist and physician often assert, that nature will submit to and bear any amount of injury if she have time to accommodate herself to it, but she cannot bear to be taken by surprise.

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## PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.

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SESSION 1852-53.

DR. M'SWINEY detailed the following case :—On February 8th, 1853, he was called to attend Mrs. ———, a short distance from town, in labour of her first child. When he arrived (about 11 o'clock, A.M.) he learned from the nurse that pains had commenced at an early hour on the same morning, and that the membranes had been ruptured about 10 o'clock, A.M. Upon examination, during a pain, his finger came in contact “at once” with a tumour of an elastic nature, which became more tense each instant, as the pain (then present) proceeded, and in part disappeared within the vagina upon its cessation. Upon the first examination it was his impression that the nurse had made a mistake, and that what he had touched was the presenting bag of membranes; but, upon continuing it further, he discovered that it was a tumour apparently attached to the anterior wall of the vagina, high up, though its exact origin could not with perfect satisfaction be traced, because

of the head having descended into the pelvis. Not having before encountered a similar state in connexion with labour, he was for a moment embarrassed. He now knew that the liquor amnii had been evacuated, and that it was not the membranes distended therewith; and from the fact of the patient having passed water freely and plentifully a short time previous to the examination, he could not consider it the distended urinary bladder. From the fluctuating sensations conveyed to his finger, his first impulse was to plunge a lancet into it and evacuate its contents; but, although it subsequently appeared he might have done so with advantage, prudence at the time induced him not to adopt that course, more especially as from the compression of the urethra by the head he found it impossible to introduce the catheter without using undue force; and thus, he had no *certain* means of knowing whether there might not be a prolapse of that viscus; a possible, but by no means probable occurrence in one so young (nineteen years of age); yet this state he considered might here be rendered likely from the manner in which the orifice of the urethra was displaced, viz., "drawn downwards and backwards." He attempted the reduction of the tumour in the mode practised with success by Meigs, when he encountered a vaginal varicocele during labour. Reduction was, however, rendered impossible by the firm pressure of the head, which was low in the pelvis. In the meantime powerful pains continued with great regularity for more than five hours, during all of which time the head was pressing upon the perineum, with imminent risk to its integrity. At each pain the tumour was projected some inches beyond the external orifice, at such times resembling an unruptured bag of liquor amnii; it would then again recede into the vagina, seeming to be upon the point of rupture each moment. At the end of this period a living male child was born, and the placenta came away in due course, the patient only suffering a very trivial laceration, less so than might have been expected from the narrowed state of the urethra consequent upon the room occupied by the tumour.

In the absence of any necessity for interference, Dr. M'Swiney did not direct particular attention to the investigation of the exact seat or nature of the tumour for some days. Upon then making an examination, he found a pale, greyish-coloured tumour, of irregular form, visible between the labia, tending to keep them partially separated; that this tumour extended within the vagina for some inches, being continuous on either side with its mucous membrane, and attached for about two and a half inches along the mesial line upon the anterior superior surface of the canal immediately beneath the urethra. The contents of the tumour were evidently fluid, and in general appearance, as well as to the touch, it bore much resemblance to a ranula. A few transverse bands, very like pale muscular fibres, extended at intervals across its surface. Its dimensions were about two and a half inches long, and one and a half broad; it was unattended with pain, making its presence known to the



patient merely by a certain sense of weight and "dragging down." When a catheter was passed into the bladder, and the urine drawn off, no diminution of the tumour followed, and the urethra could be traced towards the bladder, distinct from the tumour. The patient considered that its cause was owing to a severe fit of coughing with which she was seized a few weeks prior to her accouchement, but there was not the least reason to suppose it to be a hernia.

Dr. Churchill was called in consultation, who recommended that a portion of the tumour should be removed, and the sac dressed with lint. This advice was followed a month after delivery, when about an ounce and a half of a clear albuminous fluid, of the consistence of mucilage, was discharged. It was of an adhesive nature, and closely resembled the contents of some ranulæ. In ten days complete recovery took place. The portion removed was about an inch and a half long, half an inch broad, and between two or three lines in thickness. It was white, dense, and presented internally a smooth, shining, colourless surface. It could not satisfactorily be separated into layers, so as to demonstrate anything like a distinct lining membrane of a true secreting character; consequently, Dr. M'Swiney was not prepared to say whether it was a true encysted tumour, although it presented most of the characters of such. His own impression was that it was originally produced by the occlusion and consequent dilatation of a mucous duct.

Dr. M'Swiney remarked that, in the very imperfect search amongst obstetric records which he had time to make, he had not been able to find any account of a case exactly similar to the one he had just noticed, the chief peculiarity of which was the period of its first discovery, rendering its exact diagnosis impossible, and consequently preventing any interference, although its presence was fraught with considerable danger to the patient. Dr. Churchill had never seen such a case before. Dr. Meigs' case (alluded to) was very similar in every particular, save the nature of the body forming the tumour, and the fact of its reduction before delivery. Dr. Ashwell, speaking of disease of the vagina, says: "And one or more of its mucous follicles may be filled out into a fluctuating encysted tumour, closely allied, in its mode of formation, to the encysted tumours of the labium, or the sebaceous cysts of the skin." But Dr. Ashwell never knew of a case first discovered during labour, or he would probably have mentioned it; and Dr. M'Swiney had not been able to find any allusion to a parallel case in Lee's *Clinical Midwifery*, nor in the works of several other writers to which he referred.

#### SIXTH MEETING, SATURDAY, 30TH APRIL, 1853.

DR. BEATTY read a paper upon the administration of chloroform in cases of labour, and brought forward numerous facts in proof of its utility during parturition.

DR. M'CLINTOCK read a communication upon phlegmasia dolens, as a disease of women *not* in a puerperal state. After a brief historical sketch of the notices by Puzos, Willan, Lee, Copeland, Meigs, and others, of this disease under the circumstances just mentioned, he proceeded to narrate an instance of the kind that had fallen within his own knowledge.

The case differed from those related by any of the above authors in its purely idiopathic character. The possibility of any chronic uterine disease having existed was not admissible, neither had there been anything like symptoms of metritis, nor yet was the crural attack preceded by *sudden* suppression of the catamenia.

The subject of the case was a young lady, aged 18, who had been for some time under treatment for scanty menstruation and symptoms of incipient chlorosis, consequent upon a change of residence from the country to town. One evening in autumn, whilst the menses were present,—though, as usual, in small quantity,—she stood for nearly two hours together on damp grass. On the following morning she felt the right leg rather stiff and painful; towards evening it grew worse, and began to swell. Two or three days passed over before alarm was excited or any treatment adopted, and by this time the symptoms had become fully developed. The pulse was 120; the right leg was swollen, tense, and free from discoloration; no pitting on pressure; not much pain complained of, unless the limb was moved or handled; marked tenderness in the groin, over the femoral vessels. The line of treatment pursued was the same as that usually employed for phlegmasia dolens, and consisted in the application of leeches over the femoral vessels in Scarpa's space, constant stuping of the entire limb, absolute rest, and low diet. Under this management the acute symptoms subsided in the course of a week. One relapse took place, which necessitated a recourse to the antiphlogistic treatment, and considerably retarded her convalescence: after this was subdued, some stiffness, and enlargement of the leg from the knees down, still remained, and continued for very many months, in spite of bandaging, frictions, &c. These symptoms were always increased towards evening, or after much walking or standing. Nearly eight months elapsed before the limb had so far recovered its former state and condition that she could use it in the ordinary movements of progression without feeling any pain or inconvenience.

In conclusion the author remarked, that in this case the existence of chlorosis, which is universally held to be a blood disease, tended to confirm the views of Dr. M'Kenzie in regard to the etiology of phlegmasia dolens, that physician being of opinion that vitiation of the blood has much to do with its production.

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*Recommendations of the College of Physicians of Ireland relative to the Prevention of an Outbreak of Cholera, and the Treatment of its Earlier Stages.*

[THE following document, which has been recently issued by the above learned body, is so admirably drawn up, that we have thought it well to reproduce it in our pages, in order to its preservation for future reference by the profession.—ED.]

The Committee appointed by the King and Queen's College of Physicians in Ireland, to consider the requisite precautionary and remedial measures in reference to the apprehended arrival of cholera in this country, suggest that the authorities intrusted with power for the preservation of the health of the community should direct their attention, first, towards preventing the extension of the disease in case of its spreading to this country; secondly, towards preparing the most efficient and prompt means of meeting the disease in its earliest stage.

First in importance at the present moment are to be considered the preventive measures. It were out of place here to discuss the origin of cholera; suffice it to say, that, whatever be its original producing cause, accumulated observations prove that the diffusion of the poison of this disease, as well as of fever, small-pox, and several other epidemic diseases, is promoted by certain natural causes with which we are familiar, and which it is quite possible to control. In proof of this statement, your Committee would refer to the circumstance of cholera being most intense in the neighbourhood of the Thames, in London, particularly on the south side of the river; and its visiting and concentrating itself in 1848-49 in the same localities it had haunted in 1832; and to the further fact of the medical authorities in London, Dublin, and elsewhere, predicting with too prophetic accuracy the very streets, lanes, alleys, and houses in which it would subsequently occur.

If experience has led to the above conclusion, it has also confirmed the opinion that the efficacy of sanitary measures in preventing and limiting the progress of such epidemics as cholera, typhus, and small-pox, is indubitable; and that consequently there is at present not only a necessity for adopting such means of precaution, but also the greatest encouragement to hope that, if they do not prevent, they will at least greatly diminish the range of the disease against which we are now endeavouring to guard.

I.—SANITARY MEASURES.

The most important object, perhaps, that can be attempted, both in the public management of a great city, and in the domestic arrangement of houses, is to secure an unvitiated atmosphere, and as far as possible to preserve it from those foul exhalations with which it must become loaded wherever a great number of people are con-

gregated in a comparatively small space. To secure this object, more especially as a means of preventing the spread of epidemic diseases, the strictest attention to sewerage is imperatively necessary.

The effect of deficient or imperfect sewerage on the spread of epidemics is so fully established, that it may be regarded as indisputable. The facts observed in Great Britain and Ireland during the prevalence of the epidemic cholera in 1849, if they do not place cholera and defective sewerage in the relation of cause and effect, at least prove an intimate connexion between them. All manure heaps, filth of every description, stagnant pools of water, &c., should be immediately removed from the vicinity of dwellings. The main sewers should be frequently flushed with water, and all the communications between them and the atmosphere should be closed, except those requisite for drainage; the latter should be provided with water-valves, or trapped so as to prevent the escape of recurrent effluvia. If the sewerage of the city of Dublin permitted, the Committee think it would be advisable to have all the sewers flushed simultaneously, by all householders allowing their water-supply to escape at the same hour on one day of the week; and if this in its full extent be impracticable, they are of opinion that it should be carried into effect so far as it may be possible.

The Committee would, therefore, urge upon the authorities the necessity of persisting in carrying out generally in the strictest manner, and without delay, those stringent powers with which they are intrusted by the Legislature for the prevention of epidemic diseases, by removal of nuisances, prevention of over-crowding in lodging-houses, extending the supply of water, and promoting by all other means at their disposal the public health, and the general sanitary improvement of the city. The refuse matter, street sweepings, &c., removed by the scavengers, should be so disposed in convenient depositories outside the city as not to become additional sources of danger; moist filth should be covered over with dry materials, so as to restrain evaporation and the disengagement of offensive vapours as far as possible; deodorizing substances, such as dry turf-mould, peat-charcoal, or chloride of lime, should be freely used to neutralize them.

All occupants of houses, as well in the higher as in the lower walks of life, should be informed that it is not merely in the neglect of the main sewerage that a risk of promoting the spread of disease exists; there being scarcely a house of any class in which the sewerage and sculleries are not so mismanaged as to render them dangerous to the health of the inhabitants. All ash or filth pits should be as far as possible kept apart from the dwelling-houses, and carefully closed in, or covered up by closely fitting doors or other contrivances, to prevent evaporation and the dissemination of the noisome effluvia of decayed animal and vegetable matter. All communication between the house sewers and the interior of the dwelling-house



should be carefully closed; and those parts with which it is necessary to keep a communication to get rid of liquid waste should be carefully fitted with water-valves, so constructed as to admit the passage of liquids downwards, and prevent the return of the foul air upwards. The air of the dwelling-house being warmer than the air of the sewers, and escaping by the doors, windows, chimneys, and other apertures, tends to exhaust the sewers of their foul air, which, rising in the house to supply the place of the heated air which has escaped, keeps up a constant supply of foul air, which, passing from the sewers through the dwelling-house, is necessarily breathed by the occupants.

The same observation applies to water-closets, privies, &c., but wherever valves are inapplicable, closely fitted lids or other means of closure should be kept constantly applied.

Passengers are occasionally offended with exhalations from sinks, and from privies in areas, or under the street; in such cases the owners of the houses should be obliged to fit them accurately and immediately with air-proof fittings and doors, to prevent the escape of foul effluvia; and if these means do not succeed, they should be obliged to convert them into properly constructed valve-closets, which can now be provided at a comparatively slight expense.

The too prevalent practice of throwing filth into streets and lanes should be effectually prevented; it is in many ways injurious; and the attempts made to cleanse such places by sweeping, only spread the refuse matters over a more extended surface, and aggravate the primary nuisance. The authorities should provide covered carts for the removal, every morning, of such matters as would otherwise be thrown into the street. The Committee cannot too strongly reprobate the practice which they understand has recently grown up in the poorer districts, of converting the cellars and kitchens, which have been condemned as residences, into ash-pits and receptacles of all sorts of filth.

The Committee cannot avoid observing that the sanitary condition of the metropolis of Ireland must, notwithstanding every temporary and partial effort at improvement, remain in an unsatisfactory state unless means be provided for effectually abating that greatest of all nuisances, an enormous open sewer formed by a tidal river running through the middle of the city. The Liffey, under the present system, instead of being an ornament and an advantage, as it would be if it received only the natural drainage of the district contiguous to its banks, is converted into a receptacle of foul matters from the numerous sewers which contaminate its waters, and the deposits from which, being left exposed when the tide ebbs, taint the atmosphere to a great extent with the most offensive effluvia. The Committee are aware that a very considerable expenditure of time and labour might be required for carrying into effect any plan which would remedy this monstrous evil; but they consider that they should have very imperfectly performed the duty of advising

requisite sanitary improvements if they had not directed attention to this, of which the importance to the health of a population, now amounting to a quarter of a million, can scarcely be overrated.

Lodging-house keepers, and the landlords of houses let out in tenements to the poor, should be subjected to the regulations against overcrowding; they should be compelled to procure an adequate supply of pipe-water; to provide proper ashpits and other conveniences; and should be obliged to secure proper ventilation by opening the windows at certain times, by the use of ventilators, perforated zinc plates, louvred openings, or other means adapted to this important object.

The means used for the lighting and heating of rooms may be made subservient to ventilation. Moderate fires in open grates assist the ventilation, and prove serviceable by raising the temperature within the house, and, at this season, aid in preserving the functions of the skin and bowels in a healthy state, thereby tending to avert disease.

Sudden alternations of temperature should be avoided; the internal heat of the house should not be allowed to be so high that the effect of passing out into the open air would produce chill of the surface, and possibly bowel complaint.

*Whitewashing* with fresh-burned lime is of great importance, not merely as a process of cleansing, but also as a purifier of great power. It has been used with success in Dublin as a check on the spread of typhus fever; and in Great Britain has been found equally efficacious against cholera. In cases where the disease should unhappily break out, the Committee would advise the free use of *chloride of lime* (bleaching powder) dissolved in water, for washing the floors of the house.

*Burials within the city* should be discouraged, and, if the law admits, should be strictly and at once prohibited.

The Committee are aware that much exertion has been made by the Municipal Corporation to furnish a supply of water in parts of the city where it was deficient. The Committee would suggest that this be still further carried out; and that in very poor localities, where the expense or delay prohibits laying down pipes, a water-cart for the neighbourhood might be dispatched to dispense water at the houses of the most needy, so as to secure always an ample supply, fit for cleanliness and for dressing wholesome food.

The Committee would advise no sudden changes or alteration to be made in the habits of living, where these have previously been moderate and regular. A due allowance of animal food, fish, and vegetables, with the usual condiments; and wine, sound malt liquor, or other accustomed stimulant, in moderate quantity, is unobjectionable; all excess should be avoided, but particularly in the use of ardent spirits.

Food likely to cause indigestion or bowel complaint should be avoided, particularly fruit in an unripe, decayed, or unsound state.

The state of the markets, especially the fish market has been



represented to your Committee as requiring strict and immediate attention; they are informed that large quantities of stale fish are exposed for sale every morning, and bought up by hawkers, and then retailed at a cheap rate. The use of such food is considered by the Committee to be a fertile source of derangement to the digestive organs, causing bowel complaint, and creating a predisposition to the malignant cholera itself.

Between the functions of the bowels and skin a remarkable sympathy or consent exists, so that attention should be paid to secure a healthy state of the latter, by the occasional use of the warm bath, and clothing suitable to the season, in order to keep up a sufficient degree of activity in the superficial circulation. Flannel or woollen clothing next the person is preferable at this season of the year; and strict attention should be paid to cleanliness and frequent changes of clothing.

In general, all debilitating causes must be avoided—such as excessive and long-continued fatigue and fasting, exposure to moist stagnated air, or to air loaded with effluvia of organic matters.

The Committee conclude this division of the subject by briefly recapitulating the precautionary measures, which most urgently demand not only the interference of the authorities, but the ready and cheerful co-operation of the citizens themselves.

1. Frequently clearing out the main sewers of the city, and of individual houses, by a general system of flushing them with water. The openings of the sewers to be properly valved or trapped, so as to prevent the return of either air or liquids.

2. Abating the nuisance now created by the river Liffey.

3. Removing all kinds of filth from the neighbourhood of houses, and in the removal freely using turf-mould or peat charcoal, so as to deodorize them.

4. Strictly prohibiting the practice of emptying filth into the streets or into cellars.

5. General cleansing, whitewashing, and ventilation of dwellings.

6. Regulating lodging-houses by promoting cleanliness, preventing overcrowding, and securing ventilation.

7. Providing a more unrestricted and constant supply of water.

8. Regulating the public markets, especially that for the sale of fish.

9. Prohibiting burials within the city, so far as the law empowers.

## II.—REMEDIAL MEASURES, AND THE MEANS OF RENDERING MEDICAL RELIEF MOST GENERALLY AVAILABLE.

As the malignant cholera is, in the majority of cases, quite amenable to treatment in its earliest period, or that of premonitory diarrhœa; and as this, being usually free from pain, is apt to be disregarded, it is of the utmost importance that all cases of this kind should be diligently sought for and promptly treated. A ju-

ditions system of house-to-house visitation in the poorer districts should be organized in this city, and in every large town threatened with the epidemic. The medical visitors intrusted with the care of the poor should carry with them appropriate remedies, to be administered at once on discovering any case of premonitory diarrhoea.

In addition to this system, by which the Committee hope to check the spread of the disease at its first approach, it will be necessary to provide the means of medical relief should cholera become epidemic. Under this head will be included—first, Depots for the supply of medical assistance at all hours, by day and night; second, Hospitals for the more destitute, or those who could not be treated at their homes; and proper means for their immediate and commodious conveyance.

The Committee recommend that the city should be divided into a number of districts; at some convenient point of each of which a medical depot should be established, with a sufficient number of medical attendants and assistants, so that one at least might be always on the spot, both by day and night. The districts should not be too extensive, and should in the first instance be subject, as far as may be judiciously practicable, to careful house-to-house visitation.

Medical relief should not only be available at all hours, but should also be obtainable on application, without recommendatory ticket or any other formality; and notices should be posted up throughout the city urging all parties affected with diarrhoea to apply immediately at the depots for relief.

The Committee submit, whether, in cases of great destitution, there should not be also given to the diarrhoeal or cholera patients some relief in nutritious food, such as well-boiled rice and milk; a practice whose utility is placed beyond doubt, by the experience of the Meath-street Sick Poor Institution, during a period of more than fifty years; and as was partially done in 1832 and 1849, on patients being discharged from the cholera hospitals.

The most destitute, and indeed all who cannot receive proper accommodation and attendance in their own homes, should be removed to hospitals. The Committee see no good reason why the existing hospitals of the city might not, as far as possible, be made available for this purpose. Where the number of beds has been reduced in consequence of the diminution or withdrawal of parliamentary aid, the wards might be temporarily re-established during the epidemic. In addition, there should be hospitals devoted exclusively to the reception of cholera cases, as there were in former epidemics. Wherever it is practicable, the services of physicians or other medical practitioners who have had experience of cholera in former epidemics should be obtained, and a staff of senior medical students should be organized to assist.

Means of conveying patients easily and expeditiously to the hospitals should be provided, with suitable attendants, available on the shortest notice. The patient should be conveyed in the recumbent



posture. Vehicles on springs, provided with beds, and their sides cushioned or padded, with proper apparatus for heating and ventilation, will be requisite for this purpose.

It is a great object, for the sake of the public health, that any outbreak of the disease should be, if possible, prevented in the great establishments of the city. In the poor-houses additional wards should be selected as hospital wards, and assistant medical attendants nominated, so as to secure immediate attention to incipient cases.

The same steps should be taken in the prisons and other large buildings.

It cannot be too strongly impressed upon the public, that, in the great majority of cases of cholera, there are two distinct stages; and that, consequently, precautions should be taken to deal with each of them as it presents itself.

*The diarrhœal stage is, in most cases, manageable if treated promptly.* The moment an individual becomes affected with diarrhœa, when cholera is prevalent, let him get into bed, and take every precaution to maintain the temperature of the surface of his body and extremities, by the application of warm blankets or other covering, bottles of hot water or heated bricks to his feet and hands, warm flannel swathes to the abdomen, and taking a small quantity of whatever domestic stimulant may be at hand, such as punch made with brandy or whisky, warm negus, or mulled port wine. Let him send at once for medical aid to the nearest depot, or to his medical attendant, recollecting that every moment's delay is injurious. As a large proportion of cases occurs at night, to avoid delay we should advise all families to be provided with medicine to meet the diarrhœal stage of the disease; and as such a medicine should be one that will not injure by keeping, it should be prepared and kept in a dry form.

The Committee advise that the following medicine be kept in every house, to check looseness of the bowels in slight cases:—

No. 1. R.

Pulveris Cretæ Opiati, ʒij.  
Divide in chartulas duodecim.

Signa “ No. 1, *Astringent Powders.*”

One of these powders, mixed with one table-spoonful of warm milk, to be taken by an adult, and repeated after every evacuation, until the arrival of medical assistance.

If, however, the purging be *sudden* and *violent*, let one of the following pills be taken every half-hour, instead of the powder:—

No. 2. R.

Acetatis Plumbi, gr. xxiv.  
Opii, gr. iij.  
Fiat massa et divide in pilulas duodecim.

Signa, “ No. 2, *Astringent Pills.*”

One to be taken every half-hour.

In cases of sudden sinking and prostration, a dessert-spoonful of either whisky or brandy, and a table-spoonful of water, may be taken every fifteen minutes, until the arrival of the physician. In cases of sickness of stomach, let a large mustard poultice be applied over the pit of the stomach, until it produces decided irritation. Rice milk or beef tea, with or without well-boiled rice, may be taken in small quantity in the diarrhœal stage.

It is not an uncommon error, and one that the members of the Committee have known prove fatal in former epidemics of cholera, for persons attacked with the preliminary diarrhœa to take castor oil, or saline and other aperient medicines. This must be most strictly avoided, as it is attended with the greatest danger; on the contrary, every effort should be made to check the tendency to diarrhœa.

Where diarrhœa occurs in young people, gradually diminishing doses of the *astringent powder* No. 1 may be administered; reducing the quantity prescribed to one-half for a child ten years of age; but for the diarrhœa of children under this age, the Committee would recommend, for a child a year old, the following powder after every liquid evacuation; taking care, at this age, not to repeat it oftener than every hour:—

No. 3. R.

Pulveris Cretæ Compositi, gr. ij.

Pulveris Cretæ Opiati, gr. i.

Misce, et signa, “*No. 3, Astringent Powders for Children.*”

Two of these powders combined may be given to a child from one to three years of age; three to a child from three to five years of age; in a child from five to ten this quantity might, in urgent cases, be repeated every half-hour until medical assistance is obtained. These should be given in a little milk.

Where there is urgent thirst, pure water, milk and water, or rice water, may be freely given as drink. If cold water appears to produce chill, then a small proportion of brandy may be mixed with it.

Although desirous to supply information which may be readily available by unprofessional persons, the Committee do not deem it expedient to embarrass the public mind with detailed directions for treatment when the disease is developed, or in the secondary fever, being fully convinced that in these stages prompt and experienced medical assistance is alone to be depended on as offering any chance of recovery. They shall, therefore, only at present observe, that in some cases the disease commences suddenly, with symptoms of great intensity, such as shiverings, coldness of the surface, great prostration of strength, cramps, with purging, or vomiting, or both. In such circumstances, while medical aid is sought for, let the patient be immediately put to bed in a well-heated apartment, heat be applied to the extremities by bottles of hot water, heated bricks, &c., while a large mustard poultice, or a piece of warm flannel moistened with oil of turpentine, is applied over the abdomen. At the



same time the limbs, both upper and lower, should be diligently rubbed under the bed-clothes with the naked hand or with a flannel; and if cramps be distressing, the limbs may be carefully bandaged with flannel. In the meantime any convenient stimulant, such as punch made with brandy, whiskey, or gin, in moderate quantities, or mulled port wine, may be taken.

The following mixture is recommended as a cordial stimulant that may be used under such circumstances:—

No. 4. R.

Tincturæ Cardamomi Compositæ, fʒij.

Spiritus Ammonię Aromatici, fʒij.

Syrupi Zingiberis, fʒj.

Misce. Signa, “No. 4, *Stimulant Mixture.*”

Two tea-spoonfuls to be mixed with four tea-spoonfuls of water, and taken every half-hour.

The patient should not be allowed to sit up, or assume the erect posture.

The Committee do not intend to dictate a specific line of treatment for the fully developed disease; yet as these directions may fall into the hands of persons in remote parts of the country, who may, *whilst the medical attendant is coming from a distance*, be obliged, by the attack assuming the alarming character just described, to adopt more energetic treatment, the Committee recommend, in addition to the measures directed in the preceding paragraph, that one of the following *stimulant pills* be given every half hour.

No. 5. R.

Camphoræ, gr. xij.

Spiritus Vini rectificati, min. iv.

His probé conterendo mixtis, adde

Calomelanos, gr. xij.

Opii, gr. ij.

Capsici pulverisati, gr. iij.

Confectionis Aromaticæ, gr. v.

Mucilaginis Gummi Acaciæ, q. s.

Fiat massa, et divide in pilulas duodecim.

Signa, “No. 5, *Stimulant Pills.*”

One of these pills to be taken every half-hour.

As a convenient summary of treatment, the Committee submit the following:—

In every case of illness, when cholera is epidemic, send at once for medical assistance. Until that is obtained, attend to the following direction:—

I.—*Treatment of Premonitory Purging* IN GROWN-UP PERSONS *until the Arrival of the Medical Attendant.*

1. Put the sick person to bed, and apply bottles of hot water to the feet and hands, until thoroughly warmed.

2. Give a warm drink, with a glass of whisky punch, or mulled port.

3. Give one of the *astringent powders*, No. 1, in warm milk, after each motion of the bowels.

4. If the purging be violent or sudden, give one of the *astringent pills*, No. 2, every half-hour.

5. If there be nausea or vomiting, apply a large mustard poultice over the stomach.

II.—*Treatment of Premonitory Purging in YOUNG PERSONS AND CHILDREN, until the Arrival of the Medical Attendant.*

1. Put the child into a warm bed, with bottles of hot water.

2. Give a warm drink, but not wine or spirits.

3. Give the child *the powders for children*, No. 3, in a little milk, as follows:—

For a child one year old, one powder every hour.

„ two to three years, *two powders together* every hour.

„ three to five years, *three powders together* every hour.

„ five to ten years, *three powders together* every half-hour.

III.—*Treatment of the Attack of Cholera (KNOWN BY VOMITING AND PURGING, GREAT WEAKNESS, COLDNESS, AND SHIVERING), until Arrival of the Medical Attendant.*

1. Put the person into a warm bed, and apply bottles of hot water to the surface.

2. Apply a large mustard poultice, or turpentine, over the stomach and belly.

3. Rub the legs and arms diligently under the bed-clothes.

4. Give a moderate quantity of hot punch, or mulled port wine.

5. Give one tea-spoonful of the *Stimulant Mixture*, No. 4, in four tea-spoonfuls of water, every half-hour.

6. In violent cases, give one of the *Stimulant Pills* every half-hour.

*On some New Preparations of Iodine.* By M. DEBOUT, Editor of the Bulletin Général de Thérapeutique.

*Ioduretted Oil.*—M. Berthé, a pharmacien in Paris, suggests the preparation of ioduretted oil by heating in a water-bath 77 grains of iodine, and 32 ounces of oil of almonds. The oil becomes decolorized, and the iodine enters into such an intimate combination with it, that its presence is no longer indicated by starch. Thus prepared, the oil is perfectly transparent, inodorous, and free from the disagreeable taste of the ioduretted oil obtained by means of aqueous vapour. It is not acid, but is capable of becoming so when brought into contact with water or steam. In addition to its free-



dom from unpleasant taste, it has an advantage over all the ioduretted oils hitherto known in the great facility with which it may be made. It is not, however, correct to say that this oil contains all the iodine employed in its preparation; for if it is easy to operate in an open flask, it is difficult to arrive at the same result in a closed one: to succeed, it is necessary to use an open vessel, and as the compounds which are formed when iodine acts on oil are numerous, there is at least one which becomes disengaged. Besides, it is not easy to understand that a body possessed of such energetic properties as iodine should dissolve and disappear in combining with the oil, without more or less materially modifying the latter.

The ioduretted oil prepared in an open vessel does not give rise to the characteristic blue compound when mixed with a little sulphuric acid and mucilage of starch; while that prepared in a closed vessel produces it very quickly, although the mixture may have been kept for more than twelve hours in a bath of boiling water. The oil made in a closed vessel becomes coloured on exposure to the air, while the other undergoes no change.

[Is it not, therefore, probable that the entire of the iodine is volatilized by the exposure to heat, and the resulting product is simply almond oil?—ED.]

*Iodo-phosphuretted Oil.*—To prepare this M. Berthé dissolves phosphorus in a small quantity of oil, and adds this solution to the remainder of the oil at the same time as the iodine.

We see nothing very new in this mode of proceeding, for we cannot suppose that the phosphorus which we dissolve in a small quantity of oil should be capable of immediately forming an organic molecule similar to that contained in cod-liver oil.

When we wish to imitate a product formed under the influence of chemical affinities, which govern combination in organized bodies, we must place ourselves, as much as possible, under exceptional conditions, and endeavour to understand how the combination we desire to imitate may be produced.

When we desired to prepare ioduretted oil to replace, not cod-liver oil, but the ioduretted principle of the oil, we knew that the iodide of potassium was a very delicate test of the presence of an acid fat; we knew that iodine dissolved in oil lost its physical and chemical properties by entering into combination with the molecules of the oil; we supposed that the iodides which traversed the liver of the codfish might be decomposed, that the iodine which was set free, coming in contact with the fatty substance of the liver, or with the elements of this fatty substance, and being placed in a sphere of particular attraction, and under the influence of chemical re-actions modified by vital actions, would become one of the chief constituents of cod-liver oil, in the same manner as copper, sulphur, &c., enter into the molecules which constitute organized beings; and we thought that by adding sufficient iodine we should transform one part into hydriodic acid, while the other would enter, by substitution, into the de-hydrogenized molecule.

If it were possible to adopt this supposition of the practicability of iodizing oil, it would still appear difficult to believe that we shall succeed in phosphorizing an organic molecule by dissolving phosphorus in it.

*Ioduretted and Bromuretted Butter.*—A mixture of butter, iodide of potassium, bromide of potassium, and chloride of sodium, has also been proposed as a substitute for cod-liver oil, but this is certainly the least happy of all the propositions which have been made. We do not mean to say that this butter does not enjoy all the properties of an analeptic, and that it is not a powerful agent, by whose assistance we may struggle against the disorganizing action of tuberculous disease; but we affirm that it cannot be in any way considered as a succedaneum of cod-liver oil, for this oil contains neither iodide nor bromide.

We are still ignorant of the true active principle of cod-liver oil, nor do we know if its aromatic principle does not contribute much to its efficacy, and if it alone does not represent the agent which establishes, in certain cases, the equilibrium of the vital functions.

*Ioduretted Albumen.*—M. Renault, a pharmacien at Paris, has suggested that cod-liver oil should be replaced by ioduretted albumen, which he prepares in the following manner. Take of dry albumen of commerce, three ounces and a quarter; water, thirty-two ounces; alcoholic tincture of iodine, three ounces and a quarter; water six and a half ounces. Powder the albumen, macerate it for about twenty-four hours in cold water, that it may form a hydrate, and partly dissolve. Pour into the tincture the water, which ought to precipitate the iodine in a state of minute division; then, without having filtered the albuminous liquid, add to it, by small successive portions, and with agitation, the tincture diluted with water. Having done this, place the mixture in the water-bath, and keep it there constantly stirring, until after evaporation the residuum ceases to lose weight. Finally, pulverize it, and pass through a silken sieve.

When dried, and in powder, ioduretted albumen is of a bright yellow colour, inodorous, having scarcely a taste of iodine, and wholly without action on decoction of starch. In water it swells and becomes opaque, like gum tragacanth, and separates into two portions, one soluble, the other insoluble.

Before obtaining M. Renault's formula, we had made some experiments on the action of iodine on albumen, and we found that by mixing one part of white of egg with three of water, and passing the albuminous solution without expression through a strainer, a liquid is produced which has the property of dissolving iodine with tolerable facility. Having discovered this property, we adopted the following formula: Take of the albuminous solution representing ten drachms and a scruple of liquid albumen, five ounces; iodine, twelve grains. The foregoing is rather less than one-third of a grain in fifteen grains of liquid albumen, or two grains and a third in the same quantity of the dry preparation. Put the iodine into a mortar, add a little albuminous water and triturate; pour the solution when it is deeply coloured into a flask, and continue to operate by small



quantities; stop the flask, allow the iodine and albumen to re-act on one another for twenty-four hours; warm the flask in the water-bath, constantly shaking until the albumen appears colourless. To finish this preparation, dry in a water-bath, powder, and put it into a bottle carefully corked.

When the ioduretted albuminous solution is left to itself, it gradually becomes decolorized, opaque, and acid; if by raising the temperature we favour the re-action, the hydriodic acid, which is formed in greater quantity, combines with the albumen, and precipitates it in the form of finely divided insoluble albumen.

We must not suppose that it is the heat which makes the soluble albumen pass to the insoluble state, for the re-action commences very quickly, and the temperature of the liquid contained in the flask does not pass 123° F. We have not repeated the experiment often enough to assert that a temperature of 120° would be sufficient to effect the combination, if we subsequently heated the ioduretted solution.

The conclusions we would draw from the foregoing facts are:—

The ioduretted oil of M. Berthé is preferable to any ioduretted oil hitherto known. The iodo-phosphuretted oil is useless. We may, if we wish to administer a mixture of this nature, prescribe ioduretted oil and phosphuretted oil, but we ought to be aware that we can never administer a phosphuretted compound analogous to that found in cod-liver oil. The ioduretted and bromuretted butter can neither replace the ioduretted oil nor cod-liver oil. The ioduretted albumen or hydriodate of albumen cannot be brought forward as a succedaneum of cod-liver oil, but it ought to be regarded as a new medicine, admitting of the free administration of a therapeutic agent of great value. In approving of its employment, we do not pronounce an opinion on the pharmaceutic preparations proposed by M. Renault, for we do not understand them; but we will say, that the form of chocolate-tablets chosen by M. Soubeiran is preferable to any other preparation, and that a syrup of this albumen is quite inadmissible. We recommend M. Renault, who has made this discovery, to try the liquid albumen, and we are persuaded that he will be better pleased with its use in the proportionate quantities than with that of the dry albumen of commerce.—*Bulletin Général de Thérapeutique*, 30 August, 1853, p. 167.

[The foregoing remarks of Dr. Debout, on some of the many preparations and compounds recently proposed on the Continent as substitutes for cod-liver oil, we have thought worthy of translation; they prove, in a pharmaceutical point of view, the great difficulty of an inquiry now becoming, we might almost say, fashionable amongst medical men. As regards the therapeutical properties of cod-liver oil, we do not think it possible that they could be replaced by any compound, although we doubt not that a substitute more agreeable to the palate could easily be prepared; we might just as well expect similar results from the factitious as from the real mineral waters: in both cases nature's hand is alike superior to that of man.—ED.]

*On the Physiological Action of the Oxide of Zinc.* By Dr. MICHAELIS.

THE essay bearing the above title, which received a prize from the Faculty of Medicine of Tübingen, contains interesting data on the action of a remedy which practitioners prescribe frequently, but in a wholly empirical manner. The author commenced by searching for zinc in the products of secretion; for this purpose he instituted numerous experiments upon animals, and found the metal in the liver, in the bile, in the blood, in the urine, and sometimes in the kidneys, the lungs, the brain, the heart, and the spleen. He tried on himself the action of oxide of zinc, prepared both *viâ humida* and *viâ sicca*. Two grains of the former were first taken without any perceptible effect; when the dose was increased to three grains it produced a feeling of oppression at the epigastrium, and loss of appetite. A dose of four grains in the day gave rise at first to a sensation analogous to hunger, but afterwards excited uneasiness, nausea, and constipation; the following day it caused headach and bilious vomiting. Zinc prepared by calcination was taken in a much larger dose, without being followed by such marked effects. On the fourteenth day the quantity was increased to six grains: the author experienced only weakness, a little headach, and loss of appetite.

From these experiments it appears that the oxide of zinc, although insoluble in water, is absorbed; a fact which is easily explained by the presence in the stomach of lactic and hydrochloric acids. The metal appears in the bile before it can be discovered in the urine; twenty-four hours after the injection of a salt of zinc into the crural vein the bile exhibited evident traces of it.

Oxide of zinc does not produce modifications of any consequence except in the digestive and respiratory apparatus; strong doses cause erosions and ulcerations of the mucous membrane of the stomach, which are not of much importance, as they may heal although the use of the medicine be continued; but, on the other hand, they may pass into the chronic state. The rest of the alimentary tube is less liable to be affected, because the oxide of zinc is changed into an albuminate before it reaches it.

The alterations met with in the respiratory organs consist of granulations analogous to miliary tubercles.

The long-continued use of medium doses finally affects nutrition, and produces anemia and marasmus; the blood contains a quantity of fibrine evidently less than in the normal state. Thus the author found the mean amount of fibrine in the blood of dogs to be 1.92 in 1000, while after the use of the oxide of zinc this quantity was reduced to 0.99 or 1.00.

When cramps arise they should be attributed to the marasmus rather than to a special action of the zinc on the nervous system. In none of his observations has the author been able to discover a mode of action which can be regarded as specific. Zinc occupies



the mean between the heroic metallic poisons, and those which exercise but a feeble influence on the economy; the alterations it gives rise to are developed slowly, and are capable of cure. It is strictly allied to the class of medicines distinguished by the name of alteratives, in the sense, at least, of depriving the nutrient fluids of a portion of their plasticity.

The author concludes with some observations on the mode of administering flowers of zinc. He points out that, as oxide, it is an uncertain medicine, because we are ignorant how much of it will enter into combination with the acids of the digestive tube; it would be better to prescribe the acetate or the lactate of zinc. But if it be wished, notwithstanding, to exhibit it as oxide, the preference should be given to that prepared by precipitation. It is most important, when we wish to produce a more decided effect, instead of increasing the dose, to give it more frequently; we thus avoid the local actions. A milk regimen is advisable to promote the production of lactic acid, which favours the solution of the medicine. Lastly, magnesia, which is often prescribed with the oxide of zinc, ought to be entirely omitted, as it seizes on the acids of the stomach, and so retards, if it does not wholly prevent, the absorption of the metal. *Archiv. für physiolog. Heilkunde*.—*Gazzetta Medica Italiana Federativa Toscana*, 5 Luglio, 1853, p. 215.

[Oxide of zinc has latterly become so important a remedy, and is used so extensively for the treatment of epilepsy, that we have translated the above interesting observations of Dr. Michaelis on its physiological action. Its effects over nervous affections are decided, and no therapeutical agent has so frequently proved serviceable in our hands in idiopathic epilepsy, but its administration must be most carefully watched, its use being from time to time omitted; for, as many years since pointed out by Dr. Christison, if too long continued, it not unfrequently produces general marasmus, both bodily and mental, a fact fully confirmed by the above experiments.—ED.]

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*Case of Chronic Hydrocephalus successfully treated by Compression of the Cranium.* By DR. LUND.

LED by the observations of Dr. Baader, published in the *Journal für Kinderkrankheiten* for 1848, Dr. Lund determined to take the first opportunity of employing compression in the treatment of chronic hydrocephalus. In January, 1849, he was consulted about a boy born in the beginning of March, 1848. For the first two months after birth nothing abnormal had been observed in the child, but from that period his development appeared to be arrested. His body and face became emaciated, while the circumference of the head increased. He was generally chilly, and suffered from cough, had an uncommonly great appetite, and frequently rejected what he had eaten; there were repeated attacks of diarrhoea, and he was very restless. Notwithstanding the means employed to combat

these symptoms, his condition became steadily worse. The extremities were more and more emaciated, the abdomen swelled, the spine was weak and curved, the cranium large, the fontanelles and sutures open, the bones of the head seemed loose, the forehead strongly arched and prominent, the eyes were sunken, and the face was, in proportion to the size of the whole head, remarkably small. On applying the stethoscope to the head, in the neighbourhood of the anterior fontanelle and of the sagittal suture, a blowing sound, isochronous with the pulse, and closely resembling the placental souffle, was heard. Dr. Baader, in his essay, lays great stress on this sound as a diagnostic sign of infantile chronic hydrocephalus. Compression of the child's head was employed in the mode recommended by this author. Strips of linen, about an inch and a half in breadth, and spread with soap plaster, were, after the hair had been shaved off, so applied that the middle part of all the strips, which covered the head in a radiating manner, rested on the vertex. During the application of the plasters the head was gently compressed. The ends of the long strips hung loose, and after a broad strip was applied over those round the base of the skull, or over the lowest part of the forehead, close over the ears, and under the occipital protuberance, the loose ends of the radiating strips were turned over and held *in situ* by means of another circular piece of plaster. The object in applying the circular pieces was partly to produce a direct compression round the head, and partly to increase, by their union with the other strips, the pressure of the latter. The plasters adhered firmly for three months, and were then only removed in consequence of the great growth of hair. The circumference of the head had now much diminished in proportion to the face and rest of the body, and the fontanelles and sutures had almost completely closed. The child's general condition, too, was considerably improved. Notwithstanding this, Dr. Lund considered it advisable to renew the application of plasters in the same manner as at first. These were removed in a little more than two months, when the shape and size of the head, as well as the general health of the child, were such as to render the continuance of compression unnecessary, a plan which besides could no longer have any effect, as the bones of the head had now become quite firm. The child's head still exhibits the effect of the treatment in the unusual form it has retained, the vertex being flattened, and the parietal tuberosities tolerably prominent. In reference to his bodily state, the boy may now be considered to be, for his age, well developed, healthy, and lively, and his mental powers are much awakened.

The successful result obtained in this instance does not appear striking when compared with Dr. Baader's statement of his experience; but, as in most works on the treatment of this disease compression is only superficially mentioned, and physicians in general do not seem to have much confidence in the plan, the present case, although standing alone, deserves attention. It is possible that the mode in which the compression is employed is the most important



item in influencing the result, and that in consequence of the want of success which has been obtained by it, the method has hitherto been little attended to. A circumstance may appear to throw some doubt on the correctness of the diagnosis in the case just described, namely, that while Baader assumes the cerebral murmur as a diagnostic sign of chronic hydrocephalus in infants, other authors entirely deny the existence of this sign. Thus Barthez and Rilliet, in their *Traité des Maladies des Enfants*, state that they never have observed the blowing sound first described by Dr. Fischer of Boston, in the brain of any patient labouring under acute or chronic hydrocephalus, and Barth and Roger allege the same. They observed this sound in a child in whom they had, on account of the great circumference of the head, assumed the existence of hydrocephalus, but after death they found that the diagnosis was incorrect, and that the brain was perfectly healthy. Notwithstanding that so great authorities give opinions adverse to the importance of the cerebral murmur as a diagnostic sign, Dr. Lund feels himself obliged, supported by the experience afforded by his case, in which the diagnosis may be considered established both with reference to the symptoms of the disease and to its results, to incline more to the opinion of the German than to that of the French writers, and consequently to consider himself justified in at least assuming, that when this physical sign is observed in the head of a sick child, the disease may be chronic hydrocephalus.—*Norsk Magazin for Lægevidenskaben*, Anden Række, Bind 6, p. 61.

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*On the Preparation of Solution of Perchloride of Iron.* By M. BURIN DU BUISSON, Pharmacien of Lyons.

HAVING in our Number for May last given a translation of M. Rayer's account of the method proposed by Dr. Pravaz for producing the instantaneous coagulation of blood in the arteries, and this method having, as appears from several communications since published in both the foreign and British medical periodicals, been extensively tried in the human subject, we think it well to bring before our readers the formula which M. Burin du Buisson, to whom the task of ascertaining the best mode of preparing the perchloride of iron was confided by M. Pravaz, has adopted, as that by which the salt can be had in a state of purity, and its watery solution procured at a maximum and uniform density. It is as follows:—

Take of perfectly green sulphate of iron of commerce, 32 ounces; water, 96 ounces; pure filings of iron,  $3\frac{1}{4}$  ounces; sulphuric acid, by weight, half an ounce: introduce the entire into a matrass, or, better, into an enamelled iron vessel, digest on a sand bath until the disengagement of gas ceases; filter; add to the fluid 16 ounces of liquid hydro-sulphuric acid, and allow the mixture to stand for twelve hours; at the end of this time place the solution on the fire; boil for half an hour and filter. To the filtered liquid add  $6\frac{1}{2}$  ounces

of pure and concentrated sulphuric acid; place the mixture in a porcelain capsule, or in an enamelled iron vessel, which must be only half filled; raise it to the boiling point, and add pure nitric acid in small portions, until its addition ceases to produce a disengagement of reddish fumes; then, withdrawing it from the fire, dilute the liquid with from 25 to 30 times its weight of cold water, and precipitate all the iron in the state of peroxide with a slight excess of water of ammonia; wash the precipitate repeatedly in distilled water, and, placing it in thin layers on linen, dry it by exposure to the air.

The dried and pulverized oxide is afterwards heated to redness in a wrought iron vessel, which, in order that the heat may not require to be too much elevated, should be wide and shallow; we now obtain the astringent *Crocus martis* of the shops, which, when it is thus prepared, is nothing but pure peroxide of iron.

The perchloride of iron is subsequently obtained in the following manner:—Take of peroxide of iron, prepared as above,  $6\frac{1}{2}$  ounces; colourless and pure hydrochloric acid, 32 ounces; allow them to stand in the cold for five or six hours, then place the vessel on a water bath at  $212^{\circ}$  F., allowing it to remain until the oxide is nearly completely dissolved; this part of the operation should be performed in a porcelain capsule of known weight; decant the liquid to separate the undissolved portion of oxide, and evaporate carefully over the water bath, and with constant stirring, to the consistence of a thick syrup, the weight of which is then to be ascertained; add a quantity of distilled water equal to half this weight; heat for a few seconds and throw the entire on a filter; wash the capsule and subsequently the filter with a quantity of water equal to the first, and to the former liquid add a quantity of the latter sufficient to furnish a homogeneous mixture of the density of from 4.35 to 4.4.

In proceeding thus a very limpid liquid is obtained, entirely pure, at the maximum of saturation, having only a slight acid reaction, and always uniform, keeping perfectly without the formation of any deposit, provided it be preserved in a well-stopped vessel. It is of a deep brown colour when seen by reflected, and of a greenish golden yellow when a thin layer is viewed by transmitted light.

Five or six drops of this liquid, mixed with the white of an egg diluted with six drachms of water, are sufficient to convert the entire in less than fifteen seconds into a mass which, when the vessel containing it is inverted, remains gelatinized at the bottom, and does not become detached until so long a time has elapsed that the water commences partially to separate like the serum of coagulated blood.

This preparation then combines all the conditions requisite to realize the hopes justly excited by the observations of Dr. Pravaz. —*Gazette des Hôpitaux*, 1853, p. 238.



*On Chronic Excoriations of the Tongue in Children.* By FREDERIC BETZ, of Heilbronn, on the Neckar.

PROFESSOR MÖLLER of Königsberg describes a chronic desquamative process of the tongue, which he had observed in six cases<sup>a</sup>. The patients were middle-aged females. The excoriations appeared in the form of irregular deep red spots, for the most part sharply circumscribed, either altogether stripped of epithelium or very thin over them, while the hyperemic and swollen papillæ projected somewhat beyond the level of the surrounding parts. No morbid secretion could be observed on these spots, nor did any deep ulceration take place. They existed chiefly on the borders and tip of the tongue, more frequently on their under surface, and on the inside of the lips, never on the posterior parts of the mouth. They occasioned a troublesome sensation of burning, gave the patients a disgust for food, deprived them of the sense of taste, and interfered with the free motions of the tongue.

Dr. Betz observed a very similar disease in five cases in children, which he does not wholly identify with that described by Professor Möller, but the points of difference do not appear to be great. Perhaps Professor Möller may bring forward further communications on the subject, when he shall have had opportunities of observing his form of disease in children. A red spot of roundish or oval form appears on the edge of the point of the tongue, but never on its middle line, nor on the base, and is surrounded by a well-defined, often slightly elevated redder margin. This red, sharply defined spot increases from the edge inwards, extending in a curve, and when it arises behind advancing towards the tip. Dr. Betz has only seen it on the back of the tongue; but he has observed the spots in three situations at the same time:—on the left half of the tip and on both margins of the body of the organ, the remainder of the tongue being covered with a whitish fur. The tongue is not swollen or harder in these spots, nor does any secretion or ulceration arise. The little patients made no complaint, nor did the disease appear to be an object for treatment. The morbid process consists in an exfoliation of the horny epithelium of the papillæ filiformes<sup>b</sup>, splitting at its point into many thread-like processes,—a desquamation of the filamentary papillæ of the tongue. They consequently appear much lower on the red fleshy spot; even lower than the papillæ fringiformes. The spot so denuded is not painful to the touch. Each half of the tongue desquamates by itself; that is, the desquamation does not attack both halves at the same time, nor does it advance simultaneously on both. When the tongue has exfoliated, the process recommences after three, six, or eight days. I have watched these chronic excoriations during three years in a boy in whom they existed since an attack of jaundice, which occurred about four weeks after birth.

<sup>a</sup> Deutsche Klinik, No. 26.

<sup>b</sup> See Kölliker's *Gewebelehre*, 1852, p. 351.

The other patients were girls, the eldest of whom was eight years of age. In these children eczematous and impetiginous eruptions appeared from time to time on the face and on the head. As the disease occurs before dentition, a bad tooth cannot be regarded as its cause. Dr. Betz could not perceive any influence on the motion of the tongue or on the sense of taste. Since the desquamation of the epithelium is connected with a hyperemia of the filiform papillæ of the tongue, but without the occurrence of ulceration, the author would be inclined to substitute the designation "*Pityriasis linguæ*" for that of chronic excoriations.—*Journal für Kinderkrankheiten*, 1853, p. 190.

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*On a New Mode of performing the Operation of Tracheotomy; being a Memoir read to the Académie de Médecine by M. CHASSAIGNAC.*

THE principal source of difficulty in tracheotomy is the extreme mobility of the parts involved in the operation. It is therefore important to render the region, or at least the organ on which we operate, immovable. The condition of fixity ought, if possible, to be realized during the entire process, but at least at two periods of the operation which are of supreme importance: first, at the moment of opening the trachea; and secondly, at that of introducing the canula into the windpipe. During the incision of the trachea, the mobility of this tube exposes us to the danger:—1st, of missing it by the risk of the knife slipping on its surface; 2nd, of wounding the organs situated on its lateral portions; 3rd, of cutting completely through it and reaching the œsophagus; 4th, of opening the cartilaginous rings at the side; and 5th, of making the incision of the trachea too short or too large. A capital point in the operation consists in shortening as much as possible the interval between the opening of the trachea and the placing the canula *in situ*.

Tracheotomy is a difficult operation—very difficult sometimes in its most important part; for this must be said of every operation in which the essential point may fail without remarkable want of dexterity of the surgeon.

The difficulties which attend the second period of the operation, consisting of the introduction of the canula, are the following:—1st, difficulty in re-finding the tracheal incision in consequence of the effusion of blood and of the elastic action of the cartilages, which tends incessantly to bring the wound to a linear condition; 2nd, difficulty in maintaining the dilator in the wound of the trachea in consequence of retroversion of the cartilaginous half-rings, which easily allow it to escape; 3rd, difficulty arising from the wound being too small, or from the dilator itself occupying too much space; and 4th, slipping of the canula into the areolar tissue. In order to obviate the foregoing several inconveniences, I have had recourse to the following mode of operation, which consists of four distinct points:—1st, fixing of the cricoid cartilage; 2nd, incision of the trachea; 3rd, dilatation



of this incision; 4th, introduction of the canula. A word as to the instruments by means of which we accomplish these several objects.

1. *Grooved Tenaculum*.—This instrument is nothing else than a strong hook with a single curve, on the convexity of which we have, as in the anatomist's staff, a groove, intended to guide the point of the bistoury safely into the trachea. The importance I attach to this tenaculum is not exaggerated. Any mode of fixing the trachea is admissible, provided only that it be efficacious; while the idea of holding with the unaided fingers a mobile, elastic, rounded tube, surrounded by numerous muscles, is as easy to express as it is impossible to execute. This difficulty of fixing the trachea with the fingers has doubtless at all times excited the attention of observers. To mention only the attempts made in our own days on this subject, I will remind my readers that M. Bretonneau has recommended the use of acupuncture needles, curved near the points in the flame of a candle, and furnished at the shoulder with a little ball of sealing-wax. Liston, with the same object, employed a tenaculum with a fixed handle. He began by making a long incision in the skin, laid bare the trachea, fixed the tenaculum in it, and opened the windpipe from below upwards, contrary to the general usage. There is even this singularity, that Liston, turning his hook from below upwards, and also cutting in the same direction, did not derive the advantage from the hook of stretching the parts against the cutting of the bistoury, which remarkably facilitates the manipulation<sup>a</sup>.

2. *Dilator of the Trachea*.—The essential condition of this instrument should be likewise to serve to hold the trachea firmly, at the same time that it dilates the wound made in it. The dilatation is really efficacious only so far as the trachea is rendered incapable of escaping from the action of the dilator, whatever be the movements to which there is a tendency. After many trials based upon the same principle—viz., bending the extremity of the instrument at a right angle—I have decided on a combination which has given very good results on the living subject, and consists in the articulated division of the two branches of the dilator, a mechanism which M. Mathieu has carried out with all the skill that could be wished.

3. *The Canula*.—On this instrument I have made but very secondary modifications:—1. Widening the mortice into which the tenon of the interior canula passes. 2. Making in the convexity of the exterior canula an oval opening, which admits, when the internal canula is removed and the orifice of the external canula is stopped, of the moment being observed at which the air freely traverses the upper opening of the larynx. 3. Widening the lateral openings intended for the string which goes round the neck.

I shall now proceed to point out how, with the assistance of these instruments, the several steps of the operation are performed.

<sup>a</sup> Operative Surgery, p. 325 to p. 331.

*1st Step—Fixing the Grooved Tenaculum.*—The modifications I have introduced into the operation of tracheotomy have sprung from an anatomical observation. The cricoid cartilage is at every age, and in both sexes, an index so certain that it may always be recognised through the skin in any subject on whom it is proposed to operate; but if the least doubt remains at the moment of fixing the tenaculum, a very trifling incision of the integuments will suffice to remove all uncertainty.

It will be recollected that the cricoid cartilage forms a complete ring, and is therefore the only part of the air-passage which constitutes a resisting point amidst parts so movable; so that if it be compressed it does not yield like the thyroid or the rings of the trachea, but it re-acts with all the elastic force of a cartilaginous circle.

To ask the operator, then, to fix the tenaculum on the inferior edge of the cricoid, either directly or by making a previous incision through the skin, is to require nothing which is not capable of very certain execution. If there were any doubt, it would be very quickly removed by carrying the finger up from the sternal bifurcation until it meets the first resisting point to be felt in the median line.

Suppose, then, that the windpipe is steadily fixed by means of the hook in the cricoid cartilage, what difficulty will there be, notwithstanding the apparent boldness of the manœuvre, in unhesitatingly plunging the bistoury into the trachea, using the groove presented by this new director as a guide? The three or four rings whose section is indispensable for the introduction of the canula are then to be divided with a single stroke. In the adult this section may be made without the probe-pointed bistoury, in the child it is absolutely necessary to employ the latter. So soon as the section of the rings has been effected, the dilator is introduced; and on account of the smallness of its point it is easily insinuated between the lips of the wound, and likewise finds a safe conductor in the groove of the hook: immediately it is introduced it allows of the easy placing of the canula. To the objection which might be made to the simultaneous section of the integuments and of the trachea, as exposing the patient to the danger of the blood penetrating into the bronchi, I reply—that the best answer to this objection is to be found in the rapidity with which the canula may by this proceeding be placed *in situ*, which is the surest means of terminating the kind of hemorrhage observed in such cases.

The following are the conclusions to be deduced from what has been said:—

1. The subcutaneous projection of the cricoid cartilage is the surest guide which operative surgery possesses for the introduction of a grooved tenaculum through the skin.

2. In the vast majority of subjects we may insert a tenaculum under the cricoid cartilage without previous incision, guide a sharp



bistoury on this grooved tenaculum, and with a single stroke divide the integuments and the trachea.

3. It is absolutely necessary that the dilators of the trachea should be so arranged as to prevent their slipping out during the operation. The elbowed dilators appear to have this advantage.—*Revue Médico-Chirurgicale de Paris*, August, 1853, p. 80.

[The foregoing paper of M. Chassaignac is followed by one by M. Raimbert, in which, after alluding to the employment of a hook for fixing the air-passage in tracheotomy, he asks—"Is this proceeding new? I thought so for a moment; for none of the treatises on operative surgery make mention of it, nor is it alluded to in any work on croup or tracheotomy. However, knowing how few new things there are under the sun, and wishing to render to every one his due, I searched all the medical journals within my reach, and found in the 'Journal des Connaissances Médico-Chirurgicales' for 1841, p. 112, an article by M. Leclerc, Physician-in-Chief to the Hospital of Tours, on an operation of tracheotomy performed in a case of foreign body in the larynx, in which are the following lines:—"I entreated M. Villaret to draw the trachea with a simple hook;" and in a note—"M. Bretonneau was the first to make use of this instrument, to approximate the trachea to the lips of the wound, to fix it, and to facilitate the section of the cartilaginous rings.""]

The practice of fixing and drawing forward the trachea in this operation by means of a hook has been long adopted in the Dublin hospitals. Thus, in the Number of the former series of this Journal for November, 1832, Mr. Carmichael gives a case operated on by him, and reported by Dr. Robert Adams, in which particular stress is laid on this point,—the words "a double hook was struck into the trachea" being printed in italics. Another case, in which Dr. Adams operated on the 2nd March, 1833, and in which the double hook was also used, is given by Mr. Porter<sup>a</sup>. This modification of the operation of tracheotomy is also described in Cooper's Surgical Dictionary, where the credit of the suggestion is given to Sir James Murray, of Dublin<sup>b</sup>, as having been originally published by him in his Thesis for the degree of Doctor of Medicine in the University of Edinburgh in 1827. Lastly, in the fourth volume of our former series, in the Number for September, 1833, Sir James Murray republished the portion of his Thesis containing the description of the operation<sup>c</sup>. It is thus evident that this mode of performing the operation of tracheotomy, so far as the hook is concerned, was in use in Dublin many years before it was adopted by the French surgeons.—ED.]

<sup>a</sup> Observations on the Surgical Pathology of the Larynx and Trachea, by W. H. Porter. 1837. Page 189.

<sup>b</sup> Cooper's Surgical Dictionary, Seventh Edition, p. 1267.

<sup>c</sup> Page 107.

*On the Employment of the Perchloride of Iron in the Treatment of Aneurisms.* . By M. MALGAIGNE.

SURGEONS have long been anxious to realize the idea of curing aneurisms without having recourse to the knife, and in later times especially, the discovery of the coagulating effect exercised by certain physical and chemical agents on the blood, seemed greatly to advance the solution of the problem. Thus, about twenty years ago, Pravaz proposed the use of galvano-puncture, which has lately been tried on the living subject by M. Petrequin. The occasional success attained by this method appeared to the inventor himself to counterbalance but feebly the cases of gangrene, &c., which had been reported. The employment of the plan was besides attended with many difficulties, as he acknowledges in a letter addressed on the 3rd of last May to the *Société de Chirurgie*. This gave rise to new researches. It was in the course of these experiments that Pravaz, remarking how readily blood solidified in contact with perchloride of iron, thought he had at last found what had been so long and earnestly sought. Trials made on sheep and horses proved that with but a few drops a fine clot could be obtained, sufficiently resistant to obliterate the caliber of the vessel into which the ferruginous compound had been injected.

Several operations have already been performed with this agent on the human subject by surgeons in the country, and we are told with success. However, a vigorous investigation of the facts to which I allude proves, that they are not as favourable as has been reported. In the first instance, in one case the disease most probably was not an aneurism, but an erectile tumour, and even this was not of any great size. In others gangrene or suppuration has taken place. There was, therefore, little cause for congratulation. In Paris the results were still less favourable.

Thus M. Velpeau, in a patient labouring under traumatic aneurism at the bend of the elbow, at first injected some drops of perchloride without any beneficial result; he tried it again; inflammatory symptoms set in, and it became necessary to tie the artery. A case still more unfortunate occurred in the Hôpital Saint Louis.

A young man, aged 25, likewise suffering from a traumatic aneurism at the bend of the elbow, was operated on in Paris on the 3rd of May last. The trocar of M. Pravaz, made by M. Charrière, was used, filled with a solution of equal parts of water and perchloride of iron. The trocar easily penetrated the tumour. On withdrawing the stilet a jet of black blood escaped by the canula, showing that it had reached the centre of the sac. The syringe was immediately adapted, and five half turns were given to the screw of the piston, each of which should throw in a drop of medium size. As the tumour was still pulsating, as well as the radial artery, five additional drops were thrown in by a similar manœuvre. At this moment the patient, who had been silent hitherto, complained of a dreadful pain through-



out the whole arm. The tumour ceased to pulsate, the brachial artery itself was quiescent as far as three finger-breadths above the tumour. The canula was withdrawn, a little blood flowed from the puncture; a drop of perchloride instantaneously arrested it, and transformed what had run down the arm into a clot but half the width of the stream from which it had formed.

Ten seconds after, the artery did not pulsate at four finger-breadths above the tumour. The radial pulse was no longer perceptible, the hand was pale, cold, insensible to the touch and to pricking, and yet the patient cried out when his fingers were squeezed; and, moreover, the internal pain constantly increased. The fore-arm was enveloped in wadding; the hand by degrees regained its heat, but became swollen, and assumed a purple colour.

The night was wretched. By no change of position were the pains relieved; shiverings came on every moment in the midst of febrile heat. The patient then applied for admission into hospital. He was taken into the Hôpital Saint Louis on the 4th of May, and placed under my care. It seemed that at that time gangrene had only attacked the thumb.

At the evening visit the internes found the hand black, icy cold, and insensible. The gangrene had ascended on the inner side of the fore-arm, as far as the bend of the elbow, not so high on the outside. The arm was very much swollen, red, and hot, and there appeared to be fluctuation all about the elbow. In ignorance of the history of the case, and in the belief that they had to deal with a diffuse inflammation, two incisions were made in the arm, which gave exit to a quantity of thick, black, and conglomerated blood.

On visiting the hospital on the 5th of May I found the gangrene occupying almost the entire fore-arm, and not yet arrested. On the 6th and 7th it still made some progress. The patient raved during the night and had diarrhœa. On the 9th, the diarrhœa having increased, I ordered three ounces of tea punch; the diarrhœa stopped. The gangrene seemed to be limited, and the line of demarcation began to appear.

The delirium having ceased, the patient was informed of the necessity of amputation, but at first decidedly refused to submit to the operation; but on the 12th, feeling the effects of the suppuration and gangrene, he asked for it. I had only to cut a few still living shreds to separate the fore-arm from the elbow-joint. The portion of the artery on which the aneurism had been, was imbedded in a mass of dead areolar tissue, and presented merely a *detritus* in which nothing could be distinguished.

To be brief, symptoms of purulent infection declared themselves, and the patient sank in a few days.

It may, perhaps, be said, that in these two instances the quantity of perchloride injected was too great; this was not the case, however, in that which I shall now recount.

The patient is a man at present under my care in the Salle Saint Augustin, where he has lain since the 30th of July.

This man, aged 29, is employed in a manufactory of Seltzer water, where his occupation is corking the bottles. This operation is rendered less dangerous by means of a safety apparatus; but careless, as most workmen employed in dangerous or unhealthy labours are, he laid the apparatus aside. Now, it happened that in driving in a cork the gas disengaged by the shock given to the bottle burst the latter, and a fragment of glass penetrated the front of the fore-arm, towards the inner part of the bend of the elbow. A jet of blood immediately escaped, and the sufferer perceived a numbness in the lower part of the wounded limb, with loss of sensibility of the first three fingers of the hand, and of half of the ring finger, and loss of movement of several muscles of the fore-arm. On a level with the wound there was a small tumour, pulsating isochronously with the heart. There could be no doubt as to the diagnosis; there was lesion of the median nerve and traumatic aneurism.

I could not here try the forced flexion of the fore-arm on the arm, which may be useful in aneurisms the result of accidents in venesection, for in this case the tumour was not seated exactly at the bend of the elbow. I tried compression, but it was so painful that I was obliged to give it up. Ought I immediately to try ligature? Serious considerations were opposed to this course. The paralysis of sensation and motion proved that the median nerve was wounded; innervation was at least suspended. To this first cause of gangrene ought we add ligature, which would have deprived the limb of the influx of blood? The danger was too evident to expose ourselves to it. I determined to wait. Cataplasms were applied. The violence of the pain obliged me, several times, to have recourse to the local use of opium. Finally the aneurism, at first diffuse, became encysted and circumscribed. I thought I might again try compression, but the same reason again obliged me to give it up.

I shall here make a brief digression on the employment of compression in aneurisms. This mode of treatment is sanctioned by some, rejected by others. Which party is right? Both. The fact is, compression, according to circumstances, is either an excellent or a bad method of treatment. It is therefore necessary to distinguish the conditions which demand its employment from those which contra-indicate it.

First, we must bear in mind the division of aneurisms into spontaneous and traumatic, for it is this which must guide us. In spontaneous aneurisms, ninety-nine times in a hundred the two inner coats are ruptured, and the dilatation takes place at the expense of the external coat; the former two then constitute between the latter and the caliber of the vessel a sort of floating diaphragm, having an opening with fringed edges, indicative of the rupture. To cure the aneurism it will be necessary either to close this opening, which allows the blood to pass, the continual shock of the latter tending to enlarge the sac, or to obliterate the artery. To compress the artery so that its opposite walls may contract adhesive inflammation, it must be superficial and situated over a bone, conditions which are



rarely united in arteries of a certain caliber, in which spontaneous aneurisms usually arise. Shall we be more fortunate in acting on the orifice of the diaphragm? But we know that in these aneurisms the internal coats are altered, and their feeble vitality is destroyed when they are separated from their envelope, the basis in which the vessels and nerves ramify. We cannot then hope to obtain the reunion of parts thus broken and separated. In addition, as, in spite of the compression, the blood still passes between the tunics, through the solution of continuity, it detaches and dissects, as we say, the areolar tissue, enlarges the sac, raises it above the original lesion, so as to lead the surgeon into error, and to make him think that the aneurism is situated higher up than it really is.

It is thus that we have seen an aneurism of the femoral artery treated by compression ascend into the true pelvis, leading to the diagnosis of a dilatation of the trunk of the iliac, in consequence of which the aorta has been tied. The result was what might be expected,—the patient died, and on the *post-mortem*, a dissecting aneurism of the femoral artery was found. *Conclusion*.—In spontaneous aneurisms compression is not advisable.

Next, as to traumatic aneurism. In this case the artery has generally been pierced by a narrow opening; the three coats have remained in contact, and the cicatrix has formed circularly between the edges of the opening; the latter continues, and gives passage to the blood, which forms a sac at the expense of the neighbouring areolar tissue. There is, therefore, no detachment, but merely a small communicating orifice between the vessel and the accidental sac.

Now, if we can prevent the blood escaping, we may hope that a clot will form between the lips of the opening, and that adhesions solid enough to stop the latter may take place. In this case, then, we may try compression.

To return to our patient; time passed away; sensation and the power of motion returned; innervation was re-established; we decided on operating.

Instructed by the serious occurrence which had taken place under my eyes, and which I have just related, I resolved to establish compression below and above the tumour with a double intention: below, to prevent the injected matter being drawn with the blood into the lower divisions of the artery; above, to prevent the agitation of the blood by the impulse of the wave coming from the heart from impeding the coagulation. Having taken these precautions, I plunged a very fine trocar, to which M. Charrière's syringe, with screw piston, could be adapted, into the tumour. Having withdrawn the stilet, I moved the canula about in different directions; it appeared to me that I was in a cavity, but the blood did not come out. I then withdrew it and again re-introduced it, then some drops of purple blood flowed out; it became evident that I was in the centre of a softish and recent clot, the coagulation of which I might accomplish. I then adapted the syringe, and moving the

piston, I injected five drops of perchloride, or rather four and a half drops, for we may suppose that half a drop was employed in moistening the canula. The perchloride used had been very well prepared. A minute portion put in contact with a small quantity of blood at the moment it flowed from the latter puncture transformed the fluid into a blackish magma. However, this inspired me with but moderate confidence in the operation I had just tried, for I asked myself what would become of such a magma produced in the centre of the aneurismal tumour.

However that may be, the compression having been discontinued, we found that there was no longer any pulsation in the radial artery; but during the day this returned. It is then most probable that small clots had formed, which were soon carried away; and perhaps we were wrong to discontinue the compression so soon. The small punctures had healed with great facility; I therefore thought my patient safe from any untoward consequence, when, on the fourth or fifth day after the operation, a very violent pain set in in the cyst. At first view this pain was not alarming, for the inflammation it indicated might lead to the cure of the aneurism.

But, in three days after, the patient's sufferings were extreme; the sac had undergone a very considerable enlargement, and a blackish spot had appeared on a point of the tumour. All this made me apprehend the rupture of the sac. There was no time for hesitation; the artery must be tied. The inflammatory congestion, which reached a considerable height on the arm, rendered the operation difficult enough; however, the artery was seized and tied. Several days have passed since the operation, and gangrene has not shown itself; the pulsation of the radial artery has not returned.

In the greater number of cases, when the disease is recent, a ligature above the sac is sufficient to extinguish its pulsations; but when the aneurism is of long standing there is reason to fear that a collateral circulation may be developed, and that the blood, returning into the tumour by the lower end, should oblige us to have recourse to ligature below. One circumstance which favours the enlargement of small vessels, and the prompt formation of a collateral circulation, is irritation; now, in my patient this condition having appeared in a great degree, I was led to fear the occurrence I allude to; if such a thing should happen our course is plain: we must open the sac and look for the lower end of it. Perhaps nature will partly and spontaneously accomplish what the surgeon requires: what I mean is, that perhaps the sac will break to give exit to the magma produced by the perchloride of iron; we must then watch the patient very closely.

Undoubtedly, in the case I have just related, all precautions had been accurately taken to insure success; compression above and below the tumour, the injection of four and a half drops only; and still a violent inflammation attacked the tumour: we have been obliged to have recourse to the ligature. I have therefore come to a



decided conclusion on this subject: I formally reject the employment of the perchloride of iron in the treatment of aneurisms.—*Gazette des Hopitaux*, 11th October, 1853, page 484.

[In the preceding observations we have a discussion on the subject of the treatment of aneurism by compression, but the author speaks rather vaguely as to the mode in which compression is to be made,—whether it is to be applied to the tumour which constitutes the aneurism, or to the artery leading to it. Indeed, we might infer that it is to the artery itself he supposes the compression applied, because he says, that “to compress the artery so that its opposite walls may contract adhesive inflammation, it must be superficial, and situated over a bone,” forgetting that experience has proved, that by varying the point of compression of the artery which leads to the aneurismal sac the most successful mode of making compression of the vessel will be obtained, because it fatigues the patient less, and the counter-resistance of a bone behind the artery does not constitute a necessary element in this mode of treatment<sup>a</sup>.

In all cases the indication seems to be to produce a coagulation of the blood in the sac, and in this country methodically and well applied compression on varied points of the line of the artery leading to the aneurismal tumour has been found an eminently successful mode of treatment, whether applied to traumatic or to spontaneous aneurisms. Should this simple method fail, we still have in reserve the operation of applying a ligature to the exposed artery. As to the method of producing coagulation of the blood in the aneurismal sac by galvano-puncture, or the more modern chemical proposal of injecting, through the coats of the vessel, some drops of the perchloride of iron, if reason did not at first sight condemn such a proceeding, the facts adduced by M. Malgaigne will convince surgeons how much more safely the indication of producing coagulation of the blood in the sac is fulfilled by means of the “Dublin operation,” as it is now termed! We have thought it well, however, to lay the entire question before our readers, with which view we have translated the paper of Dr. Pravaz in our last volume, and those of MM. Burin du Buisson and Malgaigne in our present.—ED.]

<sup>a</sup> See the several papers in previous volumes of our Journal on the treatment of aneurism by compression.



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